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No. 2432.—Vol. LII

LONDON, SATURDAY, APRIL 1, 1882.

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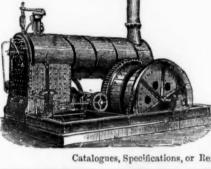
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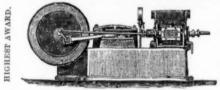
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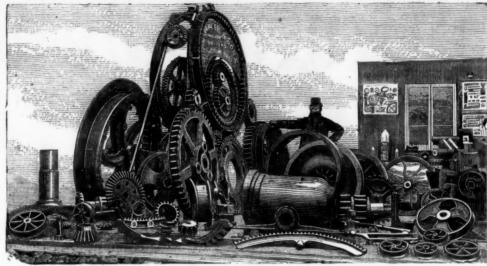
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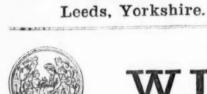
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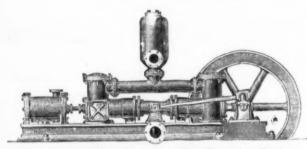
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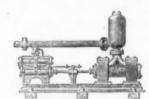
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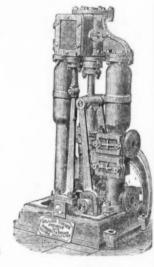


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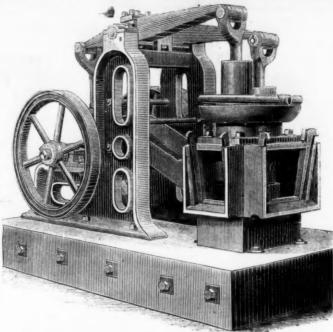
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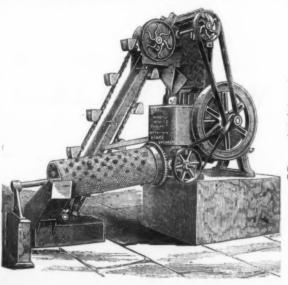
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This machine has been constructed after a long practical experience in the requirements necessary for Cornish mines. The result has more than realised our expectations. Our chief objects in view were GREATER DURABILITY and LESS LIABILITY TO DISARRANGEMENT, but it has also proved itself MORE EFFECTIVE. (Vide Re-CAMBORNE, 8TH DECEMBER, 1881. port.)

MINING INSTITUTE OF CORNWALL.

Sir,—Having been requested by the Council to superintend the Rock Drilling Machine Contest, held at Dolcoath Mine to-day in connection with the above Institute, I beg to hand you the following report:

The competing machines were the "Barrow," the "Cornish," and the "Eclipse"—each was fixed on the same mounting bar, and bored into the same stone. The result of the boring were as follows:—

Name of Machine.	Diameter of cylinder.	Diameter of Drill.	Time b	oring.	Depth bored.		Cubic inches cut per minute.	sure per	Remarks.
Cornish	In. 3½	In. 2 13	Min.	Sec. 15 55	In. 4½ 9	14·1 21·6	= .	Lbs.	
Total	31		2	10	13½	35.7	16.4	61	
Eclipse second try third try	$\frac{3\frac{1}{2}}{3\frac{1}{2}}$	$\frac{2}{2}$	2 2	$\frac{40}{0},\\35$	1 114	3·1 35·3	13.6	60	Ran into Cornish hole; hole not properly watered,
Barrow	4	13	2	15	s‡	1·2 19·18	=		Gland to mounting bar broke.
Total	4	14	2	15	83	21.0	9:3	60	

I am, Sir, your obedient servant, To R. H. Williams, Esq., C.E., President of the Mining Institute of Cornwall.

JAMES HOSKING, M.E.

HOLMAN BROS.,

CAMBORNE FOUNDRY AND ENGINE-WORKS, CAMBORNE, CORNWALL.

GOLD MEDAL AWARDED, PARIS EXHIBITION 1878.

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SIR,—In answer to your enquiry respecting your 12 by 8 Stone Breaker, we break on an average 60 tons of stone per day. The percentage in chippings and dust is under 10 per cent., which we consider is extremely small, considering the size we break our stone to, the machine making 60 per cent. X X, or 13. The driving shaft never gets hot. We can work it the ten hours Yours truly, RAWSON AND RAWSON without stopping.

GUARANTEED NO INFRINGEMENT OF ANY OTHER PATENT.

These Machines turn out the same amount of work with less than half the power, and make a better sample of Road Metal, with 50 per cent. less waste, than any other machinery, and for Crushing Purposes they are still more advantageous, as the sudden action entirely dispenses with the clogging when used for crushing softer materials, and thereby saves many breakages and a great waste of power. There is also a saving of fully 75 per cent. of lubrication required over the Blake Machine, and as a proof of this, our driving shaft never becomes heated. We are also prepared to guarantee our driving shaft from breakage in any of our Knapping Motion

have already supplied our Machines to Derby, Harrogate, and Falmouth Local Authorities; besides several Quarry Owners, Contractors, Plaster Manufacturers, &c.

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GOVERNMENT INSPECTION OF MINES.

THE INSPECTORS' REPORTS.

Through the courtesy of the Under Secretary of State for the Home Department we are enabled to give thus early the complete summary of the reports of Her Majesty's Inspectors of Coal Mines for 1881. The general summary shows that during 1881 the aggregate number of persons employed in and about the whole of the mines of Great Britain and Ireland was 550,419, of whom 495,477 were employed under the Coal Mines Regulation Act, and 54,942 under the Metalliferous Mines Regulation Act. The return is decidedly favourable as compared with that for the preceding year, for, although there were 32 more fatal accidents, 349 fewer lives were lost, During 1881 there was one fatal accident amongst every 592 persons employed (the average for the last eight years being 1 in 599), and 1 death by accident amongst every 522 persons employed (the average for the last eight years being 1 in 454). The proportion of fatal accidents in 1881 to the number of persons employed is the same as the average, and the death rate is somewhat less. From the same as the average, and the death rate is somewhat less. From the summary showing the number and ages of the male persons emplored both above and below ground and of females above ground it appears that in connection with coal mines 399,387 were employed underground and 96,090 (including 4715 females) aboveground, showing an aggregate increase of 10,544. We subjoin our usual tabulated summary, which will permit of the several classes of accidents their compared: being compared :-COAT MINTER 1000

	136	parai	te ac	ciden	its.	Deaths resulting.					
A STATE OF THE PARTY OF THE PAR	Explosions of fire-damp.	Falls of coal, sides, and roof.	In shafts.	Miscel., in mine and at surface,	Total.	Explosions of fire-damp.	Falls of coat, sides, and roof.	In shafts.	Miscel., in mine and at surface.	Total.	
orthumberland, Cumberland, 2 North Durham & Westmorreland leveland, ironstone orth and East Lancashire reland	2 2 4 2 1 5 2 3 1 3	27 34 8 41 1 1 43 58 2 32 19 6 17 29 68 42 55 55	3 6 2 7 5 1 5 1 2 7 15 9 - 2 7 7 4 3	26 35 10 13 26 24 1 19 14 3 10 11 45 19 2 11 45 2 16 6	57 76 18 58 1 78 91 3 10 44 49 131 55 6 29 14	1 164 2 2 100 111 — 633 2 5 5 — 126 — 108 — 1 496 3	27 35 8 43 1 1 43 62 2 35 20 6 6 17 71 26 4 4 26 5 5	3 8 5 10 5 1 5 13 7 18 11 	26 35 10 13 28 24 1 19 14 3 10 	57 242 18 63 1 1 89 102 3 1 1 59 100 111 45 - 243 57 6 32 14	

COA	L	MIN	ES	-18	81.					
Northumberland, Cumberland, North Durham		33	7	21	61	-	33	7	24	6
outh Durham & Westmoreland	_	34	9	41	84	-	34	9	42	8
leveland, ironstone	-	13	4	7	24	-	13	4	7	2
forth and East Lancashire	2	24	8	11	45	2	24	9	12	4
reland	-	3	-0.000	1	4	-	3	-	1	1
Vest Lancashire and N. Wales	G	57	9	29	101	55	58	9	29	15
forkshire	1	40	8	24	75	1	1 40	8	24	17
,, coal field ironstone	-	-	-	-	-	-	-	-	1900	
Lincolnshire ironstone	_	-	-	-		-	-	-	1000	
Perby, Notts, Leicester, Warwick	4	30	3	24	61	4	32	3	25	1 6
" ironstone and fire-clay	_	-		-	-	-	-	-	-	1:
forth Staff., Cheshire, Salop	4	16	5	12	37	30	17	5	12	1 7
" ironstone	-	3		2	5	-	3	-	2	١.
bouth Staff. and Worcestershire	5	17	8	9	39	6	17	8	9	1 4
,, ironstone and fire-clay	-	1	-	-	1	-	1	-	-	1
Monmouth, Glo'ster, Somerset and Devon	-	39	7	17	63	-	41	7	20	1
,, ironstone	-	71	10	41	100	-	-	100	40	1 .
South Wales	3	1	13	1	128	3	72	16	42	13
, ironstone	2	28	16	19	65	2	31	16	19	1
, ironstone and shale	-	4	10	10	7	-	31	10	19	1 3
West Scotland	2	19	1 6	1 4	30	3	20	5	-	1 3
,, iroustone and shale	2	7	3	2	14	2	7	2	0	1
	_	-	-	-	Longottages	-	-	-	-	-
otal coal mines	29	411	98	253	793	114	422	102	265	90
lotal iron, fire-clay, and shale	2	28	8	15	51	2	28	8	13	1 5
iross total	31	439	106	268	844	116	450	110	278	95

From the summary giving the mining produce either in districts or counties it appears that 154,184,300 tons of coal, 1,896,907 tons of fire-clay, 11,858,766 tons of ironstone, and 1,019,968 tons of shale, &c., were produced in the mines classed under the Coal Mines Regulation Act, including some iron pyrites, &c., found in working these mines, which is given separately in the mining districts. Comparing the above quantities with the output of 1880, an increase is shown in coal of 7,214,891 tons; fire-clay, a decrease of 41,632 tons; itonstone, an increase of 194,040 tons; and an increase of 125,839 tons in the quantity of shale, &c. From the subvioined summary it. tons in the quantity of shale, &c. From the subjoined summary it will be seen that in the aggregate the following quantities of mineral

MINING PRODUCE.	1880-tons	cwts	i.	1881-tons	cwts.
Aluminous clay	None		000109	3,980	0
Arsenic (obtained at the mines)	4,350	0	*****	3,660	11
Arsenical pyrites	5,188	0		14,321	15
Darytes	17,632	17	******	19,036	8
Dauxite	3,470	0	*****	7,732	0
Bluestone	1,720	15	******	2,305	10
	3,181	12	******	2,862	0
CHEFT	3,901	0	******	4,573	6
COME OFF	64	18	440440	63	14
Copper ore	51,546	13	******	52,583	1
Copj er precipitate	330	14	******	587	3
	386	8		372	14
	1,295	0	*****	1,201	0
	4 oz. 19 d.		*****	None	
	220 1	in 16		167 lbs	
Gypsum	75,453	0	*****	79,494	. 0
Iron ore	3,140,269	15		3,244,657	1
Iron pyrites.	10,870	1	*****	11,764	Ô
Jet	Unknow		*****	Unknow	
Lead ore (dressed)	63,547	19			
Lead ore (undressed)	00,04/	73		63,445	12
Limestone	443,850	19	*****	233	18
Lithomarge Management		13	****	536,104	
Manganese pro	4,403	9	*****	None	
Manganese oro	2,478	5		2,737	.2
Ochre, umber, &c	2,595		*****	5,242	14
Phosphate of lime	None			60	0
Potter's clay and other clays Rock salt (exclusive of the white salt	52,634	0	4 + 0 + 0 0	51,290	12
made from below the white said					
made from brine, amounting to	****				
1,800,000 tons)	198,744	0		197,631	0
Sind	94	4		264	0
	15	11	*****	5	19
	152,691	7	*****	162,341	0
	1,738	0	*****	1,250	0
	50	0		30	0
Stone (building stone, flags, kerbs, &c.	308,486	10	*****	1,042,008	10
	11,916	5		11,530	16
Wolfram 257 tons 4 cwts. black tin	9,110	16	*****	6,525	4
	0	19		54	7
Zinc ore.	26,898	4		34,134	6

With regard to the proportion which the accidents and deaths in connection with colliery operations bear to the number of persons employed and to the quantity of minerals raised it appears that on the awonge during the year under review there was I fatal accident

1 death by accident amongst 519 tons employed; and that for each fatal accident 200,189 tons of mineral were raised, and 177,106 tons for each death by accident. During the year 1880 for every 595 persons employed there was 1 fatal accident, and for every death by accident 368 persons were employed, and for each fatal accident the lesser quantity of 198,119 tons were raised, and for each death by accident also the lesser quantity of 122,509 tons. As compared with the preceding year the returns show an increase in the number of persons employed, but a diminution of 57 mines at work; the quantity of coal raised is nearly 15 per cent. greater than the output in 1877, the largest amount previously recorded; and the increase in the quantities of fire-clay, ironstone, and shale is also considerable. considerable.

Considerable.

The fatal accidents at the mines classed under the Metalliferous Mines Regulation Act in Great Britain and Ireland amounted to 85 against 82 in the preceding year, the calamities thus being about the same as last year. From these accidents the number of deaths resulting was 99, being 15 more than in the preceding year. It appears that in 1881 in the mines classed under the Metalliferous Mines Regulation Act there was one first precident among every 164 presents. gulation Act there was one fatal accident among every 646 persons employed in and about the mines, and one death by accident amongst every 555 persons employed; and in 1880 one fatal accident amongst every 645 persons employed, and one death by accident amongst every 650 persons employed in and about the mines. The subjoined summary will facilitate the comparisons:—

METALLIFEROUS MINES-1880

	Se	para	te ac	cider	nts.	Deaths resulting.					
Names of districts.	Falls of ground.	In shafts.	Miscellaneous underground.	At surface.	Total.	Falls of ground.	In shafts.	Miscellaneous underground.	At surface.	Total.	
Northumberland, Cumberland Durham, Westm., and N. Yorks. East and West Yorkshire Cheshire, Sussex, &c. Lancashire West North Wales, Isle of Man, &c South Staff. and Worcestershire. Glo'ster, Monm., Somerset, &c Gornwall, Devon, &c Cornwall, Devon, &c	8 3 1 1 4 - 3 1 9	5 - 5 - 11	3 - - 7 - 1 - 5	2 - 1 - 5 - 1 3 1	18 3 -2 1 21 -4 22 28	8 3 -1 1 4 -3 1 9	5 - 5 - 11	3 - - 7 - 1 - 7	2 - 1 - 5 - 1 3	18 3 2 1 21 21 4 2 30	
East Scotland	_	_	1	_	2	-	_	1	_	1	
Potal	31	21	17	13	82	31	21	19	13	84	

METALLIF	ER	OUS	M	IIN.	ES-	1881				
Northumberland, Cumberland	14	1 5	2	1	22 1	1 15	1 6	1 2	1	24
Durham, Westm., and N. Yorks	1	2	3	1	7	1	2	3	1	7
East and West Yorkshire	1	2	1	-	4	1	3	1	-	5
Cheshire, Sussex, &c	1	-	1	-	2	1	-	1	sapenas	2
Derbyshire and Nottingham	1	2	100	-	3	1	2	-	-	3
North Wales, Isle of Man, &c	6	2	7	4	19	6	2	9	4	21
South Staff, and Worcestershire.	_	-		_	-	-	-	-	-	
Glo'ster, Monm., Somerset, &c	480.00	-	1	-	1	-	-	1	1101	1
Glamorgan, Pembroke, &c	1	-	1000	1	2	1	-	-	1	2
Cornwall, Devon, &c.	- 6	5	6	9	10	6	6	13	9	27

- =

35 19 22 9 85 36 22 32 9 99

The subjoined tables show, amongst other things, that there has been an increase in the output of coal to the extent of 7.214,891 tons, or $4\frac{1}{4}$ per cent, on the entire annual production, against $9\frac{1}{4}$ per cent. se in 1880, which was exceptionally large :-

Total

	each II	nputed by aspector for an district.	employed separate d accident.	ployed lost.	Tons of mineral raised	Tons	lo 1
Name of districts.	Males em- ployed.	Tons mineral raised.	No. em per sept fatal acs	No. em per life	per se- parate fatal ac- cident.	mineral raised per life lost.	Number mines.
Northumberland, Cum-	47,520	15,606,849	834	834	279,670	279,670	206
So, Durham & Westmor	53,240	755 20,989,450	700	220	280,800	88,185	221
N. Riding of Yorkshire	7,972	5,270	443	443	358,170	358,170	46
,, ironstone North & East Lancashire Ireland ,, ironstone	30,997	6,441,783 9,519,858 133,702 1,051	534 1071	492 1071	166,131 138,518	152,946 138,518	311 30
West Lancashire and	39,454	12,029,751	506	443	155,527	136,304	242
yorkshire	60,474	35,476 17,468,536 180,250	643	576	190,110	170,194	490
Lincolnshire ironstone Derby, Leicester, Notts, and Warwickshire	145	99,632	145	145 836	99,632	99,632 247,852	10
,, ironstone	_	51,197	-	-			_
North Staff., Cheshire, and Shropshire	22,852	5,660,800	476	206	157,842	68,255	245
Sth. Stafford & Worcester.	23,493	1,859,900 9,560,000 186,245	534	522	228,055	222,987	413
Monmouth, Somerset,) part Glam., & Brecon.	29,811	7,835,483	608	170	163,222	45,702	311
south Wales	50,416	40,344 15,283,829	385	208	118,600	63,937	341
East Scotland	41,276	108,516	676	655	224,506	217,389	361
West Scotland	26,882	772,043 6,255,443 1,887,274	625	584	195,312	182,574	290
Totals and averages	484,933	146,969,409	595	368	198,119	122,509	3904

"There were raised from the different districts:—Coal, 146,969,409 tons; fire-clay, 1,338,539; ironstone, 11,664,726; and oil shales, &c., 894,119 tons: making the total of 161,466,739 tons.

		1881.					
Northumberland, Cum-	47,396	15,830,720	777	740	265,079	252,653	202
", ironstone" So. Durham & Westmor	54,825	21,532,773	653	645	259,739	256,683	213
N. Riding of Yorkshire and Cleveland	8,122	7,038	338	338	270,062	270,062	45
,, ironstone North & East Lancashire Ireland	31,673 1,070	6,474,464 9,326,722 127,585	704 267	674 267	209,612 32,834	200,692	300
West Lancashire and \ North Wales	39,630	11,843,685	392	262	118,154	79,030	242
Yorkshire	60,531	23,569 18,287,141 171,146 90,589	807	807	249,376	249,376	471
Derby, Leicester, Notts,) and Warwickshire	49,979	15,545,667	819	781	256,674	244,643	382
,, ironstone	-	47,317	man.	-	ume I	-	-
North Staff., Cheshire, and Shropshire	24,499	6,473,900	583	318	205,818	112,264	240
Sth. Stafford & Worcester.	23,806	2,113,600 10,058,670 198,069	595	581	260,542	254,187	410
Monmouth, Somerset,) part Glam., & Brecon.	31,044	8,318,821	492	456	132,044	122,335	313
,, ironstone South Wales	53,452	32,128 16,008,525	418	402	127,041	122,265	358
East Scotland	42,721	111,984	593	569	221,473	212,614	360
West Scotland, ironstone	26,616	778,994 6,674,175 1,816,381	605	578	199,836	191,147	275
Totals and averages	495,477	154,184,300	587	519	200,189	177,106	3847

There were raised from the different districts:—Coal, 154,134,300 tons; fire clay, 1,395,907; frontions, 11,853,766; and oil shales, &c., 1,019,953; making the total of 168,959,931 tons.

The above tables really embrace all the general statistics contained in the reports, and a large amount of information as to the precise circumstances under which the several accidents happened is given in the reports for each district. As usual, the reports supply many average during the year under review there was I fatal accident valuable suggestions and observations of a practical character, which amongst every 587 persons employed in and about the mines, and

Original Correspondence.

GOLD AND DIAMOND MINING IN SOUTH AFRICA.

SIR,—About five months ago I first called attention to the fact that the manner in which our diamond mining speculations were conducted could not fail to land us in difficulties of a very serious character. I pointed out that the blind confidence with which both outsiders and old residents accepted the statements of unscrupulous promoters was reprehensible and disastrous. For venturing to caution the public against being further fleeced, seme of your contemporaries attacked me in a manner far beyond the bounds of fair criticism,

promoters was reprehensible and disastrous. For venturing to caution the public against being further fleeced, seme of your contemporaries attacked me in a manner far beyond the bounds of fair criticism, but they have since come over to my views, and at the present time there is not a local paper that has not written more strongly on the formation of bogus companies and the mismanagement of our good ones than I have done. They are also beginning to point out that the facilities offered to secretaries and Chairmen of companies for stealing diamonds and enriching themselves at the expense of the shareholders are boundless, and without the slightest check.

Kimberley at the present time is passing through a very trying ordeal, not through any fault of the mines, but entirely in consequence of the company mania of last year. Some companies are paying from 2½ to 3 per cent. per month for money. An execution sale of the Atlas Company (claims and machinery and plant) is advertised for March 12. Several other companies must soon follow. I do not hesitate to say the failure is entirely through bad management, and if home speculators with capital were here on the spot to purchase some of the concerns in their entirety they would do well. In fact I will say without fear of contradiction that some of the companies that cannot go on for want of more capital could be made to pay forthwith 20 per cent. per annum on the amount of purchase money. I do not know of a single company in Bultfontein that is properly managed, and therefore they are not likely to get dividends. The same may be said of Jagersfontein. Olifantsfontein Mine is so far a failure. At Otto's Kopje they are still doing a lot of dead work, but have not commenced washing for diamonds as yet. At Kamfer's Dam they are trying to find more water for washing purposes; they intend constructing more washing machines. Dutoits pan Mine is without doubt a good property. The Anglo-African and Griqualand West Companies are the favourites at present, but I see no reason why

and of course it is the duty of the owners of rich ground to resist. While the companies squabble the lawyers rub their hands and pocket the coin. It is needless to say that large dividends are wasted in this way

this way.

The reef difficulty is still a serious liability against the Kimberley Mine, but the Mining Board are to a great measure responsible for this, and the way they have mismanaged the affairs of the Kimberley Mine defies description. They have two splendid engines, which are fixed in two deep holes, are idle and ruining with rust. They have big iron waggons laying idle all over the place, and more or less buried with debris; large quantities of splendid iron pipes were had out from England some years ago for the purpose of draining the mine; they have never been used, and as most of them are buried under debris they could not be found if they were required tomorrow. The carriage alone in these things must have cost several thousands of pounds. It is a fact that if the mine was not fabulously rich it must have come to grief long ago under such a system.

rich it must have come to grief long ago under such a system.

In 1879 the Mining Board decided to take down the sides of the mine from the surface to the firm igneous rock to a uniform angle of In 1879 the Mining Board decided to take down the sides of the mine from the surface to the firm igneous rock to a uniform angle of 45°. One of the principal things to be borne in mind was that the sides of the mine should not be left honey-combed with tunnels after the work was complete. Whether the board let the work by contract or not the plan they should have adopted was to have divided the mine into six sections, and having ascertained the margin of the mine at what may be properly termed the secure angle, they should have sunk an incline shaft in each section. The top of each shaft should be in the required margin of the mine, and being sunk at an angle of 54° the bottom of each shaft would be close to the margin of the diamond formation on the igneous rock, and at this level a tunnel could be run all around the diamond formation to connect the whole of the shafts. As each shaft from the top to the 1 ottom would be within a very short distance of the face of the ground requiring to be removed, I would at a vertical depth of 70 ft. connect the face of the mine with each shaft by means of a short tunnel. At 140 ft. and 210 ft. I would do the same. This would give four points in each shaft from which to haul; and if an equal number of hands would be sufficient to keep the engines continually running. No shoveling would be required, as the stuff would fall into the trucks at each level. The construction of those shafts and tunnels if done by a practical man would be very inexpensive; the total cost, including rails and cages, not exceeding 24,000/. There would no difficulty in hauling out of each shaft stuff equal to three loads of 16 cubic feet per minute; and in order to accomplish this I should have different size engines for different depths. I would place one of the Board's powerful engines on each side of the mine for the purpose of hauling from the bottom level; two 30-horse power for should have different size engines for different depths. I would place one of the Board's powerful engines on each side of the mine for the purpose of hauling from the bottom level; two 30-horse power for the 210 ft. level, and two 18-horse power for the shallower ground. By allowing six hours out of the 24 for cooling, repairs, &c, the quantity of stuff removed daily would be 19,440 loads of 16 cubic ft., and I have no hesitation in saying that by this scheme the stuff can be brought to the surface at less than 1s, per load, the present cost being over 3s. Although I have only given an outline of the above being over 3s. Although I have only given an outline of the above plan I have carefully examined it in detail.

The Standard, Barnato, British, Central, and French Companies

The Standard, Barnato, British, Central, and French Companies are doing well; the latter is the best organised company in South Africa. The electric light has been started in Kimberley, and promises to be a success. The waterworks are progressing satisfactorily, and ought soon to be giving us a good supply of water. In my last letter I pointed out that parties were going about amongst the diggers of the Transvaal buying up little parcels of gold which has been the accumulation of years. I have ascertained that in some instances they have paid as much as 12t, per oz. for a fancy piece. I have also ascertained for a certainty that this gold is to be taken to England as something quite new. It may go by this mail or next. But the attempts in various quarters to get up a bogus gold rush in some of the fever stricken districts of the Transvaal is simply disgraceful. If any sensible man will give the thing a minute's consideration he will see that by merely robbing a few honest diggers of their rights and conferring them on a few adventurers it does not consideration he will see that by merely robbing a few honest diggers of their rights and conferring them on a few adventurers it does not create gold or in any way improve the place. The flaming articles which have appeared in many of our Colonial papers, headed Gold, Gold, Gold, in their largest type, caused some hundreds of young men to rush off to the supposed Lydenburg gold fields, but they are now returning to the diamond fields penniless, tattered and torn, and bitterly cursing those who lured them to the spot. The Lydenburg gold fields were a great refuge for deserters from the British army, even those fellows declare that all the payable patches are in the hands of old diggers, outside of whose claims they could not earn a penny a day. I heard a gentleman say to-day (who thoroughly hands of old diggers, outside of whose claims they could not earn a penny a day. I heard a gentleman say to-day (who thoroughly knows the place) that the Lydenburg gold fields contained just enough gold for the purpose of getting up a few gigantic swindles, but with one or two exceptions there are no mines in the district of Lydenburg that are worth the attention of English capitalists, and the country is in such an unsettled state that it would be madness to venture there at present even if there was a prospect of success.

The concessionaires of the Transvaal must certainly think the

public very gullable if they wish them to accept all the boluses they are preparing for them. They begin by circulating reports of "ploughing up gold," then "the tsetse fly disappears," and "the road to Delagoa Bay" becomes a pleasure trip to Paradise. The truth of the matter is those people have done no prospecting, and consequently the fields are about the same as they have been for the last five years. The tsetse fly is as destructive as ever. The road from Delagoa Bay to Lydenburg is impassible for horses or cattle, and can only be traversed by man about three months in the year, and can only be traversed by man about three months in the year, and then not with safety. The only proper route from the seaboard to Lydenburg is via Natal. In April last seven men (four English and three Portuguese) left Delagoa Bay for this place, six died before they reached Lydenburg, and the seventh, a Portuguese, died here about six weeks after his arrival at the house of a friend of mine.

News from the Tatin gold fields is very encouraging indeed, and all who are working there are reported to be doing well. I have

about six weeks after his arrival at the house of a friend of mine.

News from the Tatin gold fields is very encouraging indeed, and all who are working there are reported to be doing well. I have already informed you that there was fighting on the northern and western Transvaal border, with a prospect of its spreading. It appears the chief Kalafyn, of whom I had not previously heard, has joined in the amusement, as will be seen from the following cut from the Kimberley Advertiser of yesterday:—

POTCHEFETROOM, Feb. 15.—Probably before this reaches you you will have heard that the native disturbance on the border has reached such a pitch that the Transvaal Government have been obliged to interfere. Commandeering has commenced here to-day. Five hundred men are to be levied from the district of Potchefstroom, and 100 from the town. The highest allowable levy from the district is only 800. You can, therefore, judge that decisive measures are deemed necessary. The particular action on the part of the natives which has led to these measures being adopted we have not yet heard of, but perhaps before this mail goes out I may have something more. The Boers are sone beginning to taste the sweets of self-government, and will probably speedily learn to appreciate the great advantage of having to turn out themselves to tackle the Kafirs unimpeded by the interference of English red-coats. The news is received in a very serious spirit by the old residents here, who know that when commandeering begins it means bad times. Things are already low enough here, and still people were hopeful. Now it is felt that, whatever may be the nature of the pressing disturbance, unless it be speedily suppressed no inconsiderable difficulty lies ahead. P.S.—The history of this commandeering is that the chief Kalafyn has possessed himself of some 20,000 head of cattle belonging to a neighbouring chief, and has brought them into Transvaal territory. Being asked to clear out he has declined to do so, and has fortified himself within the border. M

INDIAN GOLD MINES.

SIR,—I have good reasons for believing that results—and very good results too—are in the possession of the English directorate of some of these concerns, but their reason of non-publication at present is this—We all know what mischief was done by the stupid telegram of the Glasgow Company—a mistake not likely to be repeated by the companies whose headquarters are in London—and it is reported that several of these mean to make known their results simultaneously, which will, perhaps, do more than anything else could to convince the incredulous British public of the auriferous nature of the Wynaad from a shareholder's point of view. Apparently nothing will be allowed to transpire till after the clean-up of the Rhodes Reef Company, beginning April 10. The dealers in gold mine shares must know from all those connected with the best companies (who are sanguine in the extreme) that their attempts to depreciate the value of the shares of late will soon come to an end; preciate the value of the shares of late will soon come to an end; but I trust none of the readers of the Mining Journal will play into the dealers' hands by selling at present, and so allowing them to get hold of stock which it is most likely within the next month or they will be able to re-sell at a profit of 100 or 200 per cent. That the effect of a joint declaration of satisfactory results by several companies at the same time would be cumulative there can be little doubt .- London, March 30.

THE GOLD FIELDS OF INDIA

SIR,-In reference to the many letters written by Capt. C. F. Bray and others concerning the Colar gold fields of Southern India, situated in the Mysore plateau, I, with due deference to their ability, would kindly ask for a little space in your esteemed Journal to insert a few remarks on gold mining, its present appearances, and prospects for the future. It is a well known fact that some people have a certain amount of antipathy to any new adventure, and in this case it appears to me they have selected mines in the Colar gold. this case it appears to me they have selected mines in the Colar gold this case it appears to me they may selected mines in the Colar gold fields, and have actually prophesied a complete failure of all the mines now at work. Firstly, that the locality in which the mines are situated and the surrounding rock (a basaltic formation) are not gold producing; secondly, that no lodes are to be found either productive or non-productive; thirdly, not an ounce of gold in the whole district. These assertions I will endeavour to answer, at the same time placing before the public a true statement of the present state of affairs. It will be, no doubt, asked how the writer of this letter can give such information concerning the mines? This can certained, and the accuracy of the statement made be-

When in India I was intimately connected with the Mysore Gold Mines, and I now most emphatically state that well-defined lodes do exist, and that such lodes are gold-bearing in sufficient quantities to give good profits to the shareholders. At the Mysore Gold Mines there are at present three distinct well-defined lodes opened out, and averaging 8 ft. wide. In one lode they have driven over 18 fms. on its course. For that distance the lode is 5 to 8 ft. wide, and every to of that quartz will yield gold in paying quantities. From that level a shaft has been sunk some 80 ft. at an angle of 45° on the course of a lode from 4 to 6 ft. wide. The numerous assays made showed a superior class of quartz as depth was attained. Also 10 fms. from the shaft a winze is sunk 8 fms.; a strong more well-defined lode cannot be seen anywhere. These facts I hope will completely upset the many damaging and uncalled for letters written by mining managers formerly connected with the Color written by mining managers formerly connected with the Colar

If lodes have not yet been found on some claims that does not prove they do not exist; and I will say without fear of contradiction that the lodes discovered on the Mysore Gold Field are true fissure veins, and to all appearances lasting. I do not disparage the skill of anyone; but to say that no lodes are in existence, and not an ounce of gold to be found in any of the mines, is going beyond all bounds. I have said, and will say again, it only requires time and patience to make the Colar Gold Fields a profitable undertaking. Lask in all fairness to the mines and managers if time is taking. I ask, in all fairness to the mines and managers, if time is not required to open out a mine in sections, so as to enable the quartz to be obtained at the least possible cost. Surely anyone can see the feasibility of this; and when that is done I do not hesi-

tate to say 6 dwts. per ton will pay; and of such quartz, and very much richer, a vast quantity is already laid open in the Colar Gold Mines.

The next question is—Do these lodes run through the adjoining properties? As far as one can judge they do; and this I can say, that the champion lode can be traced through the entire Mysore that the champion lode can be traced through the entire Mysore sett, nearly two miles, on to the Ooregum sett to the north, and to the Colar sett to the south.

e Colar sett to the south. JOHN M. ROGERS, Late Manager Mysore Gold Mining Company (Limited). Lendon, March 30

THE GREAT SOUTHERN MYSORE.

SIR,-In the Supplement to last week's Journal I notice a letter, signed Rowland J. Atcherley, contradicting the statement that he had reported favourably on this property. In the report of the statutory meeting in April, 1881, which was published in the Mining

that report was evidently used in connection with this company,

with what object I leave your readers to infer.

Allow me to ask "Dr. Atcherley" if he did not send a similar favourable report on the "quarter-mile block," situated between the Great Southern Mysore and the Colar claims, and was he not annoyed and disappointed after writing such a report that the company not floated, and that he did not receive the expected commiss In his letter which appeared last week he writes:—" Until I was requested to take over charge of their mines in November last I have never made any report to, or held any communication with, the board upon the subject whatever, neither have I communicated officially with any single individual in connection with the company." In the face of this statement I would ask where he got the information from to enable him to state as far back as September (more than a month before I was requested to "leave the company's property forthwith") that I was to be dismissed, and he was to receive the appointment?

Coxwell-road, Birmingham, March 27. CHARLES F. BRAY.

QUARTZ HILL CONSOLIDATED GOLD MINING COMPANY. SIR,-I have received from a Mr. C. Dawson, of Leadenhall-street, a circular which much surprised me. He states that several of the largest shareholders in the company have formed themselves into a committee to devise means for placing it on a safe working basis. He also states that the board of directors have recently been reorganised and strengthened by the accession of three experienced members of the London Stock Exchange, who represent together with their friends some 28,000 shares. He also states that it is necessary for existing proprietors to relinquish a portion of their holds, so as to induce other persons to take up 20,000 fresh shares at par, that sum being needed for working and developing the mines. He also states that a surrough of 35,000 of the present shares ought. He also states that a surrender of 35,000 of the present shares ought to be made, of which 20,000 is already promised, and asking for cooperation in making up the balance of 15,000 shares. A meeting to consider the matter was to have been held yesterday (Wednesday, the 29th inst.), at which unfortunately I was unable to be present.

May I ask who is Mr. Dawson? Who are several of the largest shareholders who have formed themselves into a committee? Is this

committee working with or against the board of directors? Who have promised to surrender 20,000 shares?

The Quartz Hill Consolidated Gold Mining Company (Limited)

issued a prospectus with a capital of 205,000%, in 205,000 shares of 1l. each. The mine was purchased for the very large sum of 150,000%, of which 85,000% was to be paid in cash, and 65,000% in 150,000%. 150,000c., or which 85,000c. was to be paid in cash, and 55,000c. In shares. It was stated in the prospectus that since 1874 600 ft. of the company's property on the Kansas lode had produced \$600,000. The mine was sold as a going concern, and returns from 1500c. to 2000c. per month were to be relied upon. If this "going concern" has averaged only on the 600 ft. of the Kansas lode at the same rate since the company took it over as it did before—that is to say, upwards of \$70,000 per annum, or at the rate of some 14,000/. per annum—what has become of the money? I should also like to know what has become of the subscribed capital? Was all the cash paid over to the vendor without licaving sufficient for the practical purposes of the company, and if so what were the directors thinking about to sanction such an arrangement?

bout to sanction such an arrangement?

The prospectus stated that the services of Mr. Fagan had been se-The prospectus stated that the services of Mr. Fagan and occase cured for three years as practical manager, at a remuneration of 5 per cent. on the profits earned by the company. As a Mr. Fagan was the signatory to one of the agreements entered into by the company when the mine was purchased I apprehend that he was the vendor, if so, how much of the 85,000% which was to be paid in cash to the vendors was received by him as his share? He was to be assisted at the mine confidential agent of the company, who was to have the control of financial department. Who was this confidential agent of the of the financial department. Who was this confidential agent of the company, and what reports has he made to the directors as to the of their property? It may be said that I ought to have f acquainted with these matters on a much earlier da shareholders are ordinarily careless in making enquiries, as we gene rally subscribe on the faith of the statements made in the and on the names of the gentlemen who are the directors

I think it only right that the directors of the company should issue a proper notice of the present position of this mine to the whole of the shareholders, that they should give to them some information as to the committee which has been formed, that they should summon us to an extraordinary general meeting of the company, of which due notice should be given, and not to a hole-and-corner meeting, convened with only two days' clear notice; and if the position of the company is in as deplorable a state as I am led to believe from Mr. Dawson's circular, I think it only right that the shareholders should be able to appoint a new committee of inspection, and that the directors should be prepared if necessary to place their resignation in the hands of the meeting.

I shall be glad to receive communications from any shareholders

who may be disposed to act in this matter.

London, March 30.

FRONTINO AND BOLIVIA GOLD MINING COMPANY.

SIB,—I have not taken any part in the controversy recently carried on between a section of the shareholders and the board; but I have received a circular with the Chairman's defence, and a perusal of it satisfies me that the company can never be properly worked under such a head, and the proper remedy is to select a good man of busi-ness as Chairman. Mr. White may be, and I have no doubt is, the excellent man he is alleged to be; but this is no reason for giving him excellent man he is alleged to be; but this is no reason for giving him or any other man uncontrolled liberty of expenditure, which is virtually what the directors have done and would have continued doing if the shareholders had not pulled them up. I can see nothing in the circumstances of this company which should make it impossible to control the manager, as is done all over the world, particularly as a reply to any request could be telegraphed in a month or five weeks, and both Mr. White and the directors ought to be able to look alread for that time at least.—March 27. ok ahead for that time at least .- March 27.

FRONTINO AND BOLIVIA MINES.

SIR,-I was present at the last meeting of this company, and I Sig.—I was present at the last meeting or this company, and I have since received a copy of a letter addressed to the shareholders by the Chairman. There were only about 12 shareholders present at the meeting, which was a very important one, and lasted over two hours. One of the directors, Mr. Baxter, dissented from the policy of his co-directors, and his brother entered into a long statement, giving the reasons for the divergence of his brother and himself, and why he desired that two additional directors should be put on the why he desired that two additional directors should be put on the board to strengthen public confidence in the management of the company. This meeting was of a very important character, and a company. This meeting was of a very imporgreat deal of information was given and evoke ed, which well for the shareholders to have in order to form a just estimate of the position of the company's affairs. A reporter was present, and it would have been more satisfactory if the Chairman had issued a full report of the meeting together with his letter, so that absent shareholders might have been able to draw their own conclusions. For my own part I cannot conceive a state of affairs more unsatisfactory than that of the Fronting and Bolivia Company. Four years ago the than that of the Frontino and Bolivia Company. Four years ago the directors appointed an agent whom they had never seen, and to this day they have not had a personal interview with him for consultation tutory meeting in April, 1881, which was published in the Mining Journal and I do not know how many other papers, and reprinted for more extensive circulation, a part of the Chairman's speech read this company has been formed to work a portion of ground. This company has been formed to work a portion of ground which the Colar Company had the option of taking within a year, which right they waived in favour of this company; but their manners in the consequence being that the money which should have been paid in that report he stated there were five parallel lodes running through the property, and other outcrops near the main lodes, which would probably fall in and feed them. There was no difficulty in sinking and the veins were true fissure veins. This report you will find confirmation of the company of all that you have heard before." "Dr. Atcherley" inadvertently admits having sent home a report on or about the date mentioned, and, notwithstanding his carefully worded contradiction. For the directors to call themselves a board of or to give directions.

now make the mines pay commercially, so as to give the shareholders regular and increasing dividends." This is a step in the right direction, but the shareholders may fairly ask why was it not taken earlier? Why has this reckless expenditure been allowed to go on so long? It is quite gratuitous for the Chairman to tell us that this agitation is got up by stockbrokers, when the gentlemen who took the most prominent part at the last meeting were the Messrs. Baxter. The proposal that two directors be added to the board is undoubtedly an expression of want of confidence, and it is for the shareholders an expression of want or confidence, and to it so statements one the directors to decide this question. The sooner this is done the better, for the impression is growing that the directors are more or less in the dark, and that the infusion of new blood into the

gement would be of advantage to the company.

are told that the agent is coming to England in two months. and that this will put an end to all controversy. I question this. The most satisfactory course would be to send out a trustworthy person with a well qualified agent from England to examine and report upon our properties and their management past and present. This has been done by the Hoover Hills Company, with what result can be ascertained by enquiry, and your readers will know shortly through the medium of the Mining Journal.

O. S. Bristol, March 29.

LEADHILLS MINING COMPANY.

SIR,—Your correspondent, a "Scotch Holder," in attributing per-onal motives to me, shows the weakness of his position. He surely cannot be one of those who joined in asking for a reduction of lord-ship because, according to his showing, there is nothing to complain of. My letters have always admitted that the mine would pay expenses, or a little more than expenses, with ordinary mana What I have shown is that it is not worth the money paid for that at the end of the lease there will only be the va chinery (perhaps 1000%) to represent the capital of 120,000%, and that there will be no profits to divide, because the money will be swamped in repayment of this deficiency. For this reason I recombe swamped in repayment of this delication, as well as an investigation into mend that a valuation be made now, as well as an investigation into the history of the mine from the time it left the possession of the the history of the mine from the time it left the posses original company till the present date.

RICHMOND CONSOLIDATED MINING COMPANY.

SIR. - Since the retirement of Mr. Rickard from the management of this mine its affairs seem to have been thrown into a state of con-fusion. Mr. N. Wescoatt remained only a few months, and on his retirement he was succeeded by William Harris, whose resignation was announced in the Eureka Leader in the following paragraph

was announced in the Eureka Leader in the following paragraph dated March 7:—
William Harris has sent in his resignation as foreman of the Richmond Mine, His successor has not yet been named, but it is supposed it will be Sam Longley We have not learned why Mr. Harris has taken this step. He is a good miner, a fair man, and the Leader wishes him success in whatever he may undertake. Sam Longley is well qualified for the position, and if William goes Sam's prometion will give satisfaction.

A Gross OUTHAGE.—This afternoon three men headed by Sam Reynolds, who has been a tributor in the Richmond, waited on Mr. Probert and informed him that they represented the Miners' Union, and unless Mr. Probert acceled to the demands of the tributers he would be obliged to leave the camp to-morrow. Mr. Probert is not the man to submit to such treatment, and so expressed himself. He was roundly abused by Reynolds, who drew a pistol and made sundry threats. Reynolds was the loudest in his denunciations on Saturday. It now leaks out that 635 sacks of ore have been stolen from the Albion ground, taken through the Richmond Mine, and dumped into the Eureka Consolidated. Circumstances point to Reynolds as being one of the parties, and the matter will be investige, and the matter will be investigent. to Reynolds as being one of the parties, and the matter will to Reynolds as being one of the parties, and the matter will ted. The Miners' Union will hold a special meeting this evening, any they will disavow any connection with this outrage. This is a lay they will disavow any connection with this outrage. This is a lay they will disavow any connection with this outrage.

gared. The Miners' Union will hold a special meeting this evening, and it to say they will disavow any connection with this outrage. This is a land we had order rule, and our community is this outrage. This is a land we had order rule, and our community is this outrage. This is a land we had not been allowed the summer of the land of the la

A SHARP DODGE.—When Mr. Probert first received an inkling of h A SHARP DODGE.—When Mr. Probert first received an inkling of how stood, he issued an order that knocked the reason for hauling lower from the Eureka Consolidated into the Richmond. This was the first is the interested parties knew that something was coming. They had on things to do—either to make Mr. Probertailow things to run in their assuer loss a fat thing. In order to accomplish this the men who were get by this thieving stirred up the tributers to sighting pitch, representing twere being imposed upon, and upon the strength of these represents men marched to the Richmond office on Saturday. The result that day peared in the Leader. An informal meeting of the miners was held aft but no action taken. Tuesday morning about 25 men, among whom a men who were profiting by the steal, and a few personal friends we drummed together, met, and appointed a committee who called on Mr. and asserted they represented the Miners' Union. If there had been in their occount they would not have made such a barefaced, lying sta searing. Sam Reynolds, whose pitch is just over the blind chute, and who, it not one of the guilty parties, must have known the whole circumstances, also ut in an oar, and when Mr. Probert learned his name, he naturally invited him to walk outside, and attempted to open the door, when Reynolds drew his pistol, as has been stated, and caught hold of Mr. Probert.

THE ACTION OF THE UNION.—A special meeting of the Union was held last light, and it is said to have been the largest ever held. By a declaive majority

night, and it is said to have been the largest ever held. By a decisive majority they repudiated the action that had been taken. After the meeting adjorated some of Reynolds's personal friends, to the number of about 40, met, and slight was collected, ostensibly to defend him, but it is said it was for the purpose of getting him out of the camp, and it is asserted that he has left.

A REVISION OF FELLING.—When the Richmond men learned the true state of affairs they were indignant at having been imposed upon, and there was a complete revulsion of feeling. They now see that Mr. Probert's action was called for, and justifiable, and sustain him, as do the Albion men. The only opposition, and that is decidedly slim, emanates from the Eureka Consolidated.

A Suspicious CIRCUMSTANCE.—Yesterday afternoon a prominent tributer of the Richmond drew every dollar out of the bank. A short time after doing so the held an animated conversation in the street with a party who needed money pretty badly just now. It is surmised that the latter conducted certain negociations in the matter and wanted his "divy." There has been enough of "squesting" all round to convict the right parties, and some interesting disclosures can be to be deformed to the surminer of surprise that some tributers can take a trib to English of the control of the surminer.

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GREAT SIR, ways," " graud adverte shire ou Wash fo in Lond lwal

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I think recent events point to the desirability of Mr. Probert's services being retained entirely by the Richmond Company, as the tributers seem to have taken advantage of his absence to carry on their nefarious practices. I think it would a wise thing on the part of the directors of the Richmond to buy up the shares of the Albion Mine; their present market price is \$2\frac{1}{2} per share, and as the number does not, I think, exceed 100,000, the whole mine might be purchased for about \$0,000l., which is less than the value of the ore in the disputed ground.—Hull, March 28.

KAPANGA GOLD MINING COMPANY.

SIR,—The directors of this company evidently think the stock of patience possessed by the shareholders is inexhaustible. Month after month goes by, and the only practical result attained appears to be a record of the "lengths driven," and occasional telegrams, "prospects good." Taking into consideration the large amount of capital expended it is surely time that some practical results should be excepted of the manager.—March 27. pected of the manager .- March 27.

EFFUENTA GOLD MINES COMPANY.

SIR,-I should not have troubled you with the following, but that sig.—I should not have troubled you with the following, but the announcement of the first remittance of the produce of so large a quantity as 100 tons of ore by any of the Gold Coast companies, West Africa:—Telegram from Madeira: "Effuenta bullion on board the mail steamer Benguela." F. FITZGERALD, Secretary. London, March 30

SILVER VALLEY MINE.

SIR,-I must thank Messrs. Beall and Co. for their ready and sig.—I must thank Messrs. Bealt and Co. for their ready and satisfactory reply to my note, and I hope that the claims which are admitted will be paid with as little delay as possible. Poor men cannot afford to give long credit. I am surprised that the claims were so heavy as Messrs, Bealt and Co. state, the manager having told me that about 100L would cover them all.

WORKMAN. Silver Valley, March 2.

BEDFORD UNITED MINES.

SIR.—As a shareholder I was much pleased to see a special report by Captain William Phillips on these mines in last week's Journal. Capt. Phillips was brought up from a boy at these mines, was resident agent during their most prosperous days, and afterwards succeeded his lather as the manager; therefore his intimate acquaintance with every indication in and about the lode, as to whether it will in future make a good mine or not, makes his report very valuable to the raike a good mine or not, makes his report very valuable to the general body of shareholders, and should command their careful attention and confidence. On enquiry I am informed Capt. Phillips has tacked up his opinion of the future of these mines by purchalares.—Taristock.

WEST CORNWALL-THE VOR DISTRICT.

SIR,-The universal opinion here is that from the present memor sale year an era of prosperity will have again dawned even greater tan ever before realised. The studious mining advocate and scientist will immediately observe its perfect adaptation for mineral purposes, and a careful examination of the lodes reveals the varied and promient evidence of the hidden mineral wealth in the bowels of the carh. When the fact is stated that, taking only seven mines within count time, within a radius of about 20 miles from the Great Wheal cont times within a radius of about 20 miles from the Great Wheal or, nearly 3,000,000 in profits have been divided. It is to be rereted that capitalists instead of grasping such rare opportunities
dish exist at home throw away their money on foreign speculaons. One case amongst many may be cited. At one time the
reat Wheal Vor shares 'previous to the erection of their powerful
amping machinery were to be purchased at 2s. 6d. each, and subseseal's fewerwated to be worth 127 per share. It is tated that the mently fructuated to be worth 42l, per share. It is stated that the reat East Vor and Great New Vor Mines are now producing rich in from the Great Wheal Vor lodes from shallow points, and that the from the Great Wheal Yor lodes from shallow points, and that they are now actively engaged with six heads of stamps; the tin is coming almost pure, and they calculate on having several tons for sale within a week or two; the lode is so prolific that nearly all the stuff broken is stamping work for tin. These workings are on the like of the Great Wheal Yor main lode. It is surprising that these grants have been in possession of various agents in the county and the immediate neighbourhood within the last three, four, or five years, desire which work have the state of the county and the immediate neighbourhood within the last three, four, or five years, ring which period not a single effort was made or a pick put to work

daming which period not a single errort was made or a pick put to work to reopen any of the old shafts; nothing whatever was done.

Let us draw a comparison between the present state of working at these two mines now to what they were then; it will no doubt prove interesting, not only to the mining agents but mining community of this district. In the latter case, large costs were incurred without the control of the control without the aid of scientific skill in sinking shafts, erecting ma-chinery, &c., which proved a heavy loss to the shareholders without making any discoveries of tin to reward them for their outlay; but in the present case operations and developments have been carried on by only a few experienced hands who are thoroughly conversant with tin mining in this district at a small cost, and the splendid re-solts already obtained are in themselves a sufficient evidence that if mining is carried on in a proper system, aided by practical know-ledge and science as it has been originally in Cornwall, we shall be enabled to report the successful development of undeveloped mining setts that may prove to be more successful than the richest of the old mines ever discovered in this district of world-wide repu-tation.—City Manah 2

GREAT EASTERN RAILWAY COAL AND WOOD TRAFFIC.

SIR,-Your first leader in last week's issue, "Minerals and Rail-Sill,—Your first leader in last week's issue, "Minerals and Rail-ways," with especial reference to precited company gaining access to the Yorkshire coal field induces me to submit that it would be a "grand coup" for them to inaugurate, proprio motu, my scheme, adverted to by you, whereby the transport of the aggregate Yorkshire output, many million tons annually, would be acquired for a lengthened term of years. House, gas, and steam coal to London and beyond, steam coal to Harwich for Paris, &c., steam coal to the Wash for the Baltic and North Sea, and finally to the various docks in London to which there is direct access, for export to the south, to as great an extent as they could grapple with on their system. The shipment of coal and coke in the docks of London, especially the Millwall Dock, possesses an immense advantage over the Tyne, North-

suck being transferred at once into vans for distribution to conamers, the great reduction in price to them giving the proposed untraking—a Limited company—the monopoly of the London coal
apply, whether seaborne or by rail. As the Chairman of that railay company rests his claim on ability for the efficient administration of the important interests confided to his lengthened practical
apprience he will admit it is preferable to carry out such feats of
logress by amicable means, than with a potency of knowledge to
ave recourse to the Railway Commissioners. By means of my praccial scheme the seaborne coal traffic at the minimum Tyne summer
reight—3s. 10dd., plus attendant expenses—can be annihilated by ight—3s. 101d., plus attendant expenses—can be annihilated by my shillings a ton, including Wear shipments by the London-ny and Lambton screw colliers; likewise the rail traffic as at pre-til existing. There is no difficulty in carrying out the system proposed of working the academy to the system proposed of working the system proposed to the syste

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I hold myself prepared to prove to the satisfaction of the Chairman of the Liverpool-street board that their carrying out my scheme in its entirety of coal, wood, and general import traffic, &c., will secure to the company a much larger revenue than by entering upon competing rates with the other powerful tributaries to the London coal supply, as they would be put in possession of contracts extending over several years to carry all the Yorkshire coal. I have recently spent several months in the Yorkshire colliery districts, so that in my exhaustive contributions to the dual leading organs of the coal trade I have written with parfaite connaissance de cause And as to the wood trade, I have visited every shipping port in Nor And as to the wood trade, I have visited every shipping port in Norway, Sweden, Russia, and Prussia, conversant with the various idioms as with my own vernacular, enabling me to gather my information from the direct sources. My scheme is well deserving of the serious consideration of a board of directors comprising probably more diversified talent capable of grappling with so gigantic an undertaking than any other within the metropolitan area.

20, Little Tower-street, March 28.

W. J. Thompson.

SOUTH DEVON UNITED.

SIR,-I am glad to see from the West Kitty and West Polbreen Mines meetings, reported in the Journal of last week, that there are some mining agents still left in the West of England who give attention to the stratum in which a lode is embedded, and regard with especial interest its effect upon a lode whether in or copper. The childlike nonsense of driving at the adit for new shoots of ore is not resorted to by Capt. Vivian, upon Capt. Hooper's plan, at South Devon United. At West Kitty, West Polbreen, or Wheal Coates it is the productive stratum that Capt. Vivian is pleased at finding; and when that stratum is found he, like all those who have anxiously watched, as ald tributors for the avenued the plane is a longer.

and when that stratum is found he, like all those who have anxiously watched, as old tributers, for the expected change, is no longer doubtful, but from experience speaks just as confidently of what the future of the lode will be in that stratum as if he had come upon it. The case is widely different with all agents who have charge of a mine producing a different metal to that in which they have had practical experience; or if the experience has never been tested by tribute works, even if the mine produces the same metal as that which he has been accustomed to the agent will in nine cases out of ten know little or nothing of the effect of strata upon the lode. Tutwork mining, where no regard is paid to productive or unproductive strata, but simply the ease or difficulty with which the ground can be

work mining, where no regard is paid to productive or unproductive strata, but simply the ease or difficulty with which the ground can be driven through, does not aid a man's eye to unmistakably define the character and qualities of the rock that accompanies courses of ore; whereas the old tributer's eye seldom errs on this point.

In the case of South Devon United Copper Mines the hard, unproductive bar that runs through the mines from old sump to Brook engine-shaft has been passed through at old sump and at Pickstone's shaft, and in the same identical stratum that gave the 250,000. above the bar. The lode is found 18 ft. wide below it, and orey throughout; but such is the disinclination to follow it that Capt. Hooper, who announced in his report of Jan. 14 that he was going to immediately out such is the dishibitation to follow it that Capt. Hooper, who announced in his report of Jan. 14 that he was going to immediately work it, has not yet begun, but is driving at the adit level west for new shoots of ore, and sinking a new shaft 350 fms. east, whilst the mine is full of ore below the hard bar for more than 300 fms., which he will not touch, as his eye does not enable him to recognise the ore-bearing stratum

ore-bearing stratum

It is hoped that someone from the West will assist him with the right vision, that the directors may have sales of ore to report from Pickstone's at their meeting in July, as well as many thousands of pounds worth of reserves which have been waiting the working of the steam winding-engine to bring it to the surface. From these two sources large dividends should be then announced.

March Pickstone Pourse.

CHRIST. ROBINS.

WEST DEVON CONSOLS.

SIR,—A recent visit to this valuable property fully justifies the sanguine opinion formed of it by many practical mining expects who visited the mine twelve months ago, when shares were selling at 4L per share in the London market. The lode is opening out in the bottom of the engine-shaft just as the lode did at Wheal Maria before the great masses of copper ore were discovered; and a further exploration of it may lead to similar results. It is not generally known that this gossan lode at West Devon is quite a new discovery it has never been worked upon either east or west before the presen company commenced operations, therefore great interest is excited in the district, and the sinking of the shaft is being watched for great and valuable improvements which are sure to take place in the course of sinking. I have never seen a lode of greater promise—rich black, yellow, and grey ore is interspersed in the lode, and these indications mark the top of a great deposit of ore. The share-holders are to be congratulated on having such a property, and before long they will respect to the property of the prope long they will reap a rich reward for their outlay.

Gunnislake, March 29.

BLASTING WITH STRAW FUSES

BLASTING WITH STRAW FUSES,

SIR,—I was so firmly of opinion that the barbarous custom of firing blast holes with fuses made of straws filled with explosives was known only in bistory, that I was perfectly astounded to find from a specification just printed in recording the invention of Messrs. A. and J. Hunter, of Glasgow, that it is still in use in their district. They state that in blasting rock in quarrying, or coal or other mineral in mining, as usually practised, the cartridge is placed at the bottom or inner end of the blast, drift, or hole, and a needle or wire inserted into the cartridge and extending outside of the drift is left in that position until the hole has been tamped or plugged with clay or other material. The needle or wire is then withdrawn, and a straw filled with gunpowder is inserted into the opening left, and is pressed in till it reaches the cartridge. This straw tube fuse is then fired by a slow match; and if moisture or any obstruction cutting the straw prevents the whole length of the fuse firing at once, but allows of slow combustion of the moistened powder or of the broken straw, the lives of the workmen may be endangered by

in London to which there is direct access, for export to the south, to as great an extent as they could grapple with on their system. The shipment of coal and coke in the docks of London, especially the library as vessels discharging in the Thames, in lieu of proceeding in ballast, at great loss of time, and heavy charges to the Tyne, &c., will accept much lower freights from the Thames, in lea of proceeding in ballast, at great loss of time, and heavy charges to the Tyne, &c., will accept much lower freights from the Thames, in lea of proceeding in ballast, at great loss of time, and heavy charges to the Tyne, &c., will accept much lower freights from the Thames, in least of the Government of by far the largest importing to examine the tamped blast hole. Mesers, Hunter state that by their present improvements such a risk is obviated by the use of a fuse consisting of a short tube of waterproof paper, which is filled with fine powder or similar explosive the Tyne, &c., will accept much lower freights from the Thames, in least the total present improvements such a risk is obviated by the use of a fuse consisting of a short tube of waterproof paper, which is filled with fine powder or similar explosive the Tyne, &c., will accept much lower freights from the Thames, in least present of the Government of by far the largest importing to examine the tamped blast hole.

Mesers, Hunter state that by their present improvements such a risk is obviated by the use of a fuse consisting of a short tube of waterproof paper, which is filled with fine powder or similar explosive, and is inserted only a few inches within the small hole left by two exproved paper, which is filled with fine powder or similar explosive, and is inserted only a few inches within the small hole left by the use of a fuse consisting of a short tube of waterproof paper, which is filled with fine present improvements such a fill waterproof paper, which is filled with fine present improvements with a solve or wire. This fuse of a fuse consisting of a short tion or composition to form the firing match or slow burning part

of the fuse.

The solution which Messrs. Hunter employ for this purpose is, they say, varied according to the circumstances in which the fuses are to be used. When the match is to be a slow one they use nitrate of potash or soda, chlorate of potash or other similar salt, or an admixture of such salts dissolved in water, and saturate the match admixture of such sate abasolved in water, and saturate the match or twisted end of the fuse therewith, a short length of the fuse tube being by preference also dipped. When the fuse is to be used in mines where explosive gas may be escaping from the mineral the match formed by dipping in solution of nitre is particularly applicable, as it may be fired without a flame by applying burning match paper or a portion of the match torn off, and to which the hight has been analysed at some distance forces. mineral the match, as it may be fired without a name by applying bent existing. There is no difficulty in carrying out the system proposed of working the coal transit with own engines and wagons, which received further corroboration even yesterday before the Select committee on Railway Rates and Fares by Mr. J. S. Forbes, Chairman of two London railways, an exprit lumineux in the galaxy of british railway magnates, who gave evidence that sidings were not included in concessions to railway companies, and did not come land in concessions to railway companies, and did not come land in concessions to railway companies, and railway company lumineral the match, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable, as it may be fired without a name by applying ticularly applicable applicable as it may be

was compelled to provide such for traders' own engines and trucks, but simply the unrestricted use of their permanent way, sidings being exclusively constructed for traffic carried by the railway company as common carriers.

I hold myself prepared to prove to the satisfaction of the Chairman of the Liverpool-street board that their carrying out my scheme in its entirety of coal, wood, and general import traffic, &c., will select the coatridge and the five is inserted within this metal tube or the cartridge, and the fuse is inserted within this metal tube or

> Now. I should be glad to learn whether under the Mines Regulation Acts there are any rules sanctioned by the Secretary of State which permit the firing of blasts with straw fuses, or whether Messrs. Hunter describe the practice as usual because the rule against it is so habitually disobeyed. Whatever may be the cause really think that the matter is one which calls for immediate exestigation.—Truro, March 24.

TIN MINING AT ALTERNUN

SIR,—Operations at one or two important mines are about to be resuscitated in the parish of Alternun. The prospects of success are very encouraging. A speedy development will no doubt be the means of setting other concerns agoing. When tin can be raised from such shallow depths in quantities averaging 50 lbs. of tin to the ton of stuff there is every encouragement to push ahead as fast as possible in order that profits may be realised. The experience is that as depth is attained the amount of tin per ton of stuff inat no very distant date after the concerns may be looked forward to at no very distant date after the concerns have been developed. The resources appear to be inexhaustible. Three parallel lodes which have been traced and proved for about two miles in extent which have been traced and proved for about two miles in extent will be paid attention to vigorously. These have been worked on as deep as water level for some hundreds of fathoms in extent at a profit. A great deal of tin exists in this district, and will no doubt reward those who invest their money in developing it if worked in a miner-like way. One or two good mines will awaken mining men to the importance of developing the resources. These there is every hope to believe will ere long give that notoriety to the district which is so essential to intended capitalists' investments.

Instead of having to erect expensive steam machinery an abundant supply of water runs through the properties in the shape of a large

Instead of having to erect expensive steam machinery an abundant supply of water runs through the properties in the shape of a large river, and can be applied to all power required for pumping, hauling, and dressing, &c. The price per ton of getting marketable will, therefore, be very small. It is only reasonable to expect success to attend the undertaking, and that a little time and money judiciously spent in preliminary operations will be rewarded by increasing profits. Tin mining property has in some cases increased in value fourfold during the last three years, and with the improvement in trade and commercial enterprise generally a still greater advance in prices is expected. There is every prospect of a continual prosperity in trade. Good mining property should, therefore, be secured without delay, as the value becomes greatly enhanced by a rise in the price of metals. The writer is well acquainted with the county, but knows of no virgin ground more worthy of investment and development than the above. It is good geologically, and has been the subject of remark by those able to judge.

ALTERNUN.

Launceston, March 28

THE SUPPLY OF GOLD.

SIR,—In consequence of the check to commercial enterprise, and the less prosperous times of the past few years, from bad harvests and other causes less attention has been paid to this subject than its interest and importance merit, but with the increasing prosperity now manifest, and the probable not distant prospect of a recurrence of those "fortune making" times, when our commerce advanced by "leaps and bounds," it is one that must inevitably demand serious attention ere long. In some quarters, indeed, fears have already been entertained of a possible gold famine, and that such fears are by no means groundless can easily be shown.

In an interesting article on "Facts about Gold" in the Globe of Saturday last some statistics are given of the production of this metal—one as indispensable to our commercial and financial as iron to our manufacturing and naval supremacy—which may be briefly summarised as follows:—In the early ages of the world's history gold was very abundant, the sources of its supply being

briefly summarised as follows:—In the early ages of the world's history gold was very abundant, the sources of its supply being various regions in Asia, Europe, and Africa. Since the discovery of America, however, the centre of gold supply had been changed, the New World furnishing two-thirds of the precious metals now in use, the United States alone having exported since 1848 gold to the value of 321,579,0127. From South America the total supply since the year 1513 has been over 430,000,0007. The great gold discoveries in North America were those of California, the mines of which have yielded nearly 300,000,0007, while those of all the other northern States have only yielded about 30,000,0000.0007.

The statistics of the production of gold in Australia and New Zealand, and in India and Africa, are not given in the article referred to. Whatever may be the results, however, when the various mines in the two latter continents, which have recently been brought

Zealand, and in findla and Atrica, are not given in the article referred to. Whatever may be the results, however, when the various mines in the two latter continents, which have recently been brought under the notice of investors, are largely developed, their present yield is not very large, and the point I desire to give prominence to is the great and rapid decline in the supply or gold. California, which produced 16,000,000L in 1853, now barely yields 4,000,000L, annually. Australia, which 30 years ago, gave about 15,000,000L, now only yields about 3,500,000L, and in New Zealand also the production is diminishing. The total yield of the South American

now only yields about 3,500,000%, and in New Zealand also the production is diminishing. The total yield of the South American mines is now only 2,000,000% annually, and of those of Europe, including Russia, only 4,000,000%.

The annual production of gold reached its maximum in 1853, when it was 47,200,000%, as stated in the article referred to, but since then it has been gradually diminishing, till it is now less that one-half of that amount; and, as the writer states, the vast addition made to the coinage of the world since the gold discoveries in California and Australia, have not had the effect which was freely and confidentially predicted as certain to follow by financial and economical writers of the highest repute—it being then declared that "Ithere would be such an increase in prices that persons with fixed incomes would be impoverished, and find it impossible to live."

The now apprehended fears of a gold famine present a striking contrast to these prediction of the pessimists of only 25 years ago, and there are certainly more substantial grounds for the fears now expressed of a rise in the value of gold. Iconour, however, in the opinion

expressed of a rise in the value of gold. I concur, however, in the opinion expressed by Mr. Hunt*that" there is evidently a law of gold distribution, and a providential order in the sequence of discoveries of it;" and I doubt not that as the great impulse to commerce brought about

and I doubt not that as the great impulse to commerce brought about by free trade was followed by the gold discoveries in California and Australia, so when a fresh impetus is again given similar discovereries elsewhere will again follow.

The present annual supply of gold is not sufficient to meet the requirements of the expanding commerce of the world, and as there is an ever-increasing demand for it for articles of luxury and other purposes, in addition to the increasing demands for coinage, and "as every nation (as the writer of the article in the Globe truly says) as it becomes prosperous, or even ambitious, aspires at having a gold standard," the late example of France and Germany in that respect is certain to be followed, sooner or later, by other nations, all of which will still further increase the ever-increasing demand for gold. This must be met by fresh enterprise on the part of those whose labours and perseverance and skill in the search for and winning of labours and perseverance and skill in the search for and winning of the metallic treasures of the world your Journal does so much to direct and encourage. There are numerous gold fields in many foreign countries which await but the well directed enterprise of capitalists and mining engineers to yield their golden treasures as plentifully as even those of California and Australia have already done, and perchance may yet do. To some of these I may take an opportunity, by your permission, of directing the attention of your numerous readers. In many of these gold-bearing regions, where gold reefs have been proved to exist, there is, however, one great difficulty to contend with, and that is the scarcity of labour, and it is a subject worthy of serious discussion whether some well organised abours and perseverance and skill in the search for and winning of

" "The History and Statistics of Gold. By Mr. ROBERT HUNT, of the Mining

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mining enterprise in foreign countries, where rich deposits are known to exist, but which cannot be successfully worked, owing to the scarcity both of skilled mining and unskilled labourers. Many miners at home, who make at present but a scant livelihood, might paners at nome, who make at present but a scant livelihood, might gladly embrace opportunities which thereby could be offered them of transferring their labour to gold fields abroad, where, by having some share (by tribute working or otherwise) in the mines, they would work with an energy and perseverance which self-interest alone can inspire.—London, March 23.

F. G. S.

VALUATION OF MINES.

SIR,--In reply to "Mining and Civil Engineer," in the Mining SIR,—In reply to "Mining and Civil Engineer," in the Mining Journal of Jan. 21, I have to offer the following observations. The success or failure of mining in Mysore fortunately does not depend on the opinion or the acts of Mr. Bray. Now for the facts of the case. I visited some short time ago the Great Southern Mysore mining property. I believe the extent of it is about 170 acres long (say) 1000 yards long by 800 yards wide. Now, Mr. Bray sunk a shaft 16 ft. long by 8 ft. wide, and, as the reefs run parallel from north to south, Mr. Bray actually expected to hit an auriferous reef at once over an area of 800 yards by a shaft 3 yards wide, or the odds against were as 800 to 3, or 266 to 1. Is it any wonder that he did not hit the reef, supposing there had been only one good lode in his block? Had there been three parallel lodes the odds then would have been 88 to 1. Had Mr. Bray known anything of his work he have been 88 to 1. Had Mr. Bray known anything of his work he could easily have ascertained that no good lode has been struck at less than 45 ft. from the surface, and some as low as 70 feet. An officer who visited the Colar Mines more than 50 years ago found the natives bringing up good stone from 40 to 50 ft. deep. I descended the shaft of the Colar Mine, and found the auriferous lode at 60 ft. At the Mysore Mine I also went down the shaft, and found the lode at 65 feet. That they have splendid auriferous stone no one who has seen the stone pounded and washed could deny. I saw some quartz from the Ooregum Mine of exactly the same appearance as the Colar and Mysore, showing small nuggets of gold in it. If Mr. Bray had done as others have done—that is sunk shafts, and connected them by tunnels—I have no doubt from what I have seen of the run of the reefs that he must have struck a good lode. I have visited other parts of Mysore where the outcrops are on the surface, and there is no difficulty in striking a reef; but at the Colar Mines and there is no difficulty in striking a reef; but at the Colar Mines the outcrops are few and far between. The native workings in several parts of Mysore are very extensive, and cannot be mistaken. I have visited several of the Devala mines in South Wynaad; have explored the tunnels, and seen the stone. One tunnel was driven into the hill-side at a depth of 180 feet. The stone from the reef was full of pyrites, and looked very fine. I have seen the Glenrock, Alpha, and Prince of Wales stone in situ, and can vouch for its excellence. In North Wynaad I have been into several tunnels, and seen the stone taken out of the reefs showing gold, and the assay of some has been over 4 ozs. to the ton. I have not the slightest interest in any of the Devala or Colar Mines, and simply give you the results of my experience, and my decided opinion is that in Mysore and North and South Wynaad there is plenty of gold, and with good management the results in most cases should be very satisfactory.

Outacanund, Feb. 28.

Engineer.

WHENCE SHALL WE OBTAIN FRESH SUPPLIES OF GOLD

SIR,—At the period of the discovery of America the stock of gold and silver in all Europe was estimated by Gregory King in 1636 at 45,000,000. for coin and plate, and by William Jacob in 1829 at 34,000,000. for coin alone. Of this sum but a small proportion was in gold. From the discovery of America to the end of the year 1881 the total production of gold was 1,278,000,000. At the last date, so far as can be gathered from the statistics of mints and estimates of official authorities in each country, the total stock of gold coins and bullion in Europe, America, and the colonies was about 310,000,000/., and of this amount more than four-fifths were in the four countries Great Britain, France, Germany, and the United States, all the other countries of the western world, with a few unimportant exceptions, having suspended specie payments. From this statement, ample having suspended specie payments. From this statement, ample proofs of which will be found in the History of the Precious Metals. published by George Bell and Sons, two most important deductions are to be made. 1st. That of the stock on hand in 1492 and the entire production of gold since that date, about three-fourths have been lost, worn out, exported to Asia or consumed in the arts— chiefly the latter. 2nd. That almost the entire stock of gold in coins or bullion available for coinage is now in the hands of four powerful or of the analysis of the second of the lands of four powerful nations. To these deductions must be added a third one, still more important, which is to be derived from a perusal of this work.

3rd. The annual supply of new gold from the mines, which rose from 2,000,000l. at the beginning of this century to 39,000,000l. in 1852 gradually fell to 18,000,000l. in 1881 and threatens to fall still the second of the property of the second of the property of the second of the sec lower. Owing to the vast supplies of placer gold from Brazil during the 17th century, Portugal, who then monopolised them, adopted the gold standard for money in 1688. This policy, upon the advice of Lord Liverpool in 1805, was followed by England in 1816, and has since that date been followed by nearly all the important countries of the Western world. Most of these countries do, indeed, employ silver coins, but these are by law either restricted in function or number, or subjected to signorage by the State; so that in fact they are or subjected to seignorage by the State; so that, in fact, they are but subsidiary or representative coins, and, except for the danger of counterfeits, may as well be made of tin or paper so silver, their value depending not at all upon the metal in them, but altogether upon the operation of law. Gold coins of unlimited tender, with free coinage for gold bullion, and therefore substantially gold metal, is the basis of the measure of value in the commercial world to-day. The area of this basis as we gather from the foregoing observations is but of of this basis, as we gather from the foregoing observations is but of

Upon this area is erected a superstructure of silver, nickel, and copper representative coins, of convertible and, therefore, representative bank notes and of other representative notes, bills, and paper instruments, so numerous and so vast in amount that according to an experimental test of their magnitude made in a London bank by order of Sir John Lubbock, they exceeded the gold used in payments in the proportion of more than 200 to 1. It requires but little knowledge of finance to perceive that an edifice so top-heavy must, like a spinning top or a bycicle be very nicely managed to prevent it from falling, and that any alteration of the base, however minute, will cause a tremendous oscillation of the whole structure. The means chiefly employed to manage this delicately poised edifice have been free commercial intercourse, the legal enforcement of prompt payments, and the establishment of discount banks. Despite these powerful means, the maintenance of specie payments has gradually had to be abandoned in all of the following named important countries—Turkey, Japan, Russia, Austria, Hungary, Italy Spain, Brazil, Buenos Ayres, Chili, besides many smaller States. Ever spain, Brazil, Buenos Ayres, Unil, besides many smaller States. Even in the four principal countries where specie payments are continued the instrumentalities employed to maintain them show signs of severe strain. In England the fluctuations in the Bank rate of discount occasioned by the withdrawal of some gold bullion for New York very recently threw the commercial world into alarm. In France the circulation of bank notes has had to be so much restricted that every note issued was supported by a deposit in its Bank of coins or bullion of sevent value. In Geometry, the mercial venture proteins in the sevent was the protein in the sevent was the protein in the sevent venture. of equal value. In Germany the merely representative function in-tended by the law of 1870 to be assigned to silver coins has had to be changed to that of unlimited legal tender. In the United States more than three-fourths of the actual circulating money of the country consists of greenbacks and National Bank notes. circumstances belonging to these several countries must be added one that belongs in a certain degree to them all—the rapid increase of population, of commerce, of exchanges in the Western world, and particularly in those countries which most largely employ paper money. The growth and prosperity of those countries induce their Governments to turn continually to more stable monetary systems, in order that this prosperity may be secured. They always seek to return to specie payments and thus always threaten to suddenly augment the demand for gold. The United States have already resumed specie payments; Italy has but recently concluded a specie loan for a similar purpose. Bussia, Austria, Japan, Brazil, and

emigration scheme might not be promoted in connection with gold | Buenos Ayres may at any time make active efforts to return to specie

payments

In this critical condition of affairs the fact that the annual supplies of new gold from the mines continues to fall off assumes aspect full of danger to the most important interests of society. leave to economists and financiers the task of examining and verify ing these statements and inferences, and of enlarging upon the results which must flow from them. My task as a miner is with another portion of the subject; it is to explain why the production of gold has fallen off, and to point to the most likely sources whence further supplies are to be expected.

Gold is produced by nature primarily in quartz veins. These veins are generally found in hard slate rocks. To extract the quartz it is necessary to make excavations, either into the quartz or the enit is necessary to make excavations, either into the quartz or the enclosing rocks of hard slate. This involves the making of shafts, drifts or galleries, winzes, and sometimes adits to drain the mines of water. After being extracted the quartz has to be crushed in mills to powder, and this powder or pulp treated with water, quick-silver, and chemicals to secure the gold which it contains. Gold quartz mines are to be found in many parts of the world, but the richest thus far worked have been in India, Spain, California, and Australia. The Indian gold quartz mines were worked to certain depths by the natives many ages ago. Three years since I publicly expressed the doubt that below these depths, and taking other circumstances into consideration, these mines would pay to work any further. (See the work above cited, page 6.) This doubt has been amply justified by the failure thus far of the Anglo-Indian gold mines. The gold quartz mines of Spain were exhausted by the Carthaginians. Since that period they have never been important.

The gold quartz mines of California were opened by free labourers

thaginans. Since that period they have never been important. The gold quartz mines of California were opened by free labourers in 1852, and still continue to be the most productive in the world. The first mine opened, the Empire of Grass Valley, is now producing metal from its 1300 ft. level. The Idaho, near by, has paid 150 monthly dividends, and is producing from its 1500 ft. level. The Pittsburg, in the same vicinity, has struck a fine ore body in its 800 ft. level. Other gold quartz mines in this district continue to be 800 ft. level. Other gold quartz mines in this district continue to be productive at depths of from 800 to 1200 ft., but this is the only district in the foothills of California where quartz mining has become permanent. There are quartz mines all along the foothills, many of which have been highly productive, and some others, which continue to be productive, and I doubt not there are thousands of other productive mines yet to be discovered in this belt. But the other productive mines yet to be discovered in this belt. But the general fact remains that, except as to Grass Valley, quartz mining in California has gradually forsaken the foothills, and ascended to the Sierras. Next to Grass Valley the most productive district to-day is Bodie, which is on top of the Sierras. The reason of this is that, with the exception of Grass Valley and Bodie, and a few isolated wings in state leading the state of the second of the sierras. mines in other localities, where the quartz veins continue to remain rich at great depths, the veins were richest near the surface. This fact, well known to all old California miners, may account for the failure of the Spanish gold quartz mines in the hands of the Romans, and the failure thus far of the gold quartz mines in India.

In Australia there have been opened also by free labourers more than 5000 quartz mines, most of which are now abandoned. The remainder now graphy about 20,000 man, whose average carriigns.

remainder now employ about 20,000 men, whose average earnings do not exceed 30s. a week, less than one-half the usual wages paid to miners in California. The annual gold product of these colonies, which from about 20,000,000l. in 1852, fell to about 4,000,000l. in 1878, has remained steady at the last-named rate, chiefly owing to the introduction of hydraulic machinery in the placer mines and the

surrender of mining to Chinese labour.

surrender of mining to Chinese labour.

As to gold quartz mining in Russia, although the official statistics beforelme show the product of gold for each year since 1814, there exist serious doubts of their reliability. The commercial movement of gold from Russia flatly contradicts these statements of its officials. Be this as it may, the statistics show an increasing annual product up to 1871, when it amounted to 5,200,000%, and a decreasing product since that year, the present output serious test of a light of the statistics of duct since that year, the present output amounting to (as alle about 4,000,007/.

about 4,000,007l.

So much for gold quartz mining. Now as to the secondary and far more important source of gold—the placers. The action of the elements upon rocks breaks them down, reduces them to boulders, to pebbles, to sand, to fine powder (killas, clay), &c. These operations constitute a natural quartz mill. It grinds slowly but exceedingly fine. It may require a few million years, more or less, to reduce a granite mountain to the condition of kaolin, but when the work is close the received up into work is done the product is so fine that it can be worked up into the daintiest bits of porcelain. When gold-bearing quartz is the subject of these great natural operations the effect is to distribute the quartz and concentrate the gold. The masses of quartz become successively reduced to boulders, pebbles, killas, &c., and in this condition are washed away by water and mingled with other refuse and distributed over vast areas, often far away from their original habitat. On the contrary, the specks of gold in the quartz, which are often so fine as to be invisible to the naked eye, are massed together and successively become grains, flakes, nuts, nuggets, slabs. The further they go the heavier these masses become; but they never go very far, for gold is always found near its matrix.

It is evident that where Nature does the work of discovering, locating and opening the mine, exting out the quartz, employed.

It is evident that where Nature does the work of discovering, locating, and opening the mine, getting out the quartz, crushing it, and extracting the gold, the latter is to be much more cheaply found than elsewhere. All the miner has to do in a placer mine is to secure the pieces of gold which Nature has extracted for him from the quartz rock. So long as the pieces are large enough he secures them by simply picking them up. As the larger pieces become scarce, and he is forced to look for smaller ones, he has recourse successively to various simple and increasing machines, as the year of hard begin the rious simple and inexpensive machines, as the pan or hand basin, the rocker, the tom, and the sluice. When the gold becomes so scarce and fine that he must wash down and sift entire hills to secure it, he employs hydraulic machinery, the invention of which dates from California about thirty years ago, but which has only been perfected during the past ten years. The richest placer mines thus far opened have been in India, Bactria, Lydia, Spain, Gaul, Spanish America, Brazil, Japan, Siberia, Calfornia, and Australia.

The placer mines of India, Lydia, Spain, and Gaul were exhausted previous to the Christian era. In the early part of the present century it was discovered that the placers of Restrictives much more numer.

it was discovered that the placers of Bactria were much more numer ous than the ancients had supposed, and that in fact they ex-tended westward to the Ural Mountains of Siberia. The Ural extensions were, thereupon, opened by the Russian Government, who employed for this purpose the forced labour of political prisoners and criminals. The Spanish American placers were exhausted by Columbus, Vasco Nunez de Balbao, Cortes, Pizarro, and the other discoverers and gold-hunters of the 16th century. These placers were too poor ever to have remunerated free labour. The method of working them was to conquer and enslave the natives, and force them to work for cold until their provided from principles and fatient of the control of the contro them to work for gold until they expired from privation and fatigue. In this way over 20,000,000 natives were destroyed by the Spaniards in the course of two centuries, whilst the entire product of gold did not exceed 8,000,000/. (This was the total product of gold in America from 1493 to 1699 inclusive.) From Japan the Portuguese obtained during the 16th and 17th centuries about 20,000,000l. in gold. The method employed was priestcraft, fraud, and forced labour. When from 1493 to 1690 inclu these means failed the supplies ceased, for they were not sufficiently remunerative to pay for hired labour. From Brazil the Portuguese obtained by similar means the almost incredible sum of 180,000,000l. The bullion tax (quinto, or one-fifth) exacted by the Crown affords

conclusive evidence of the fact.

From islands like Hispaniola, and narrow countries like Mexico, Guatemala, Darien, and Peru, the natives could not escape. Their masters were, therefore, enabled to confine them to the mines, this manner the latter became totally exhausted before the Spani abandoned them. The case was different in Brazil. There country was practically of illimitable extent. It was difficul It was difficult to country was practically of infinitely extent. It was difficult to capture Indians, and still more difficult to confine them to the mines. The latter were far from the sea coast, and supplies were expensive. These difficulties rendered mining far more costly in Brazil than Spanish America. In the latter it cost little or nothing, and mining was continued until no Indians were left alive and no more gold could be found. In the former it cost several shillings a day to earth, confine and feed each Indian and when these expenses excatch, confine, and feed each Indian, and when these expenses ex- steel.

ceeded the average yield mining was abandoned. Hence there remain to this day numerous ancient placer mines in Brazil which might richly pay to reopen and work by mechanical processes; and this is not the case in any other country of which we know. Placer mining commenced in California in 1848, and attained its culmination in 1853 when the annual product was 13,000,000l. By the year 1860 it it had fallen to inconsiderable dimensions, when it received a new stimulus through the invention of what is now known as the hydraulic process. This process may be traced back to the year 1853, but was not used to any important extent until after 1860. The invention was a gradual growth, and only reached its maturity after 1870. The present annual product of California (proper) is about 4,000,000l. of which perhaps a moiety comes from placer mining. ceeded the average yield mining was abandoned. Hence there remain

In Australia placer mining commenced in 1851, reached its culmination in 1852, fell to almost nothing by the year 1860, received a fresh impetus from the introduction of hydraulics after 1865, and at the present time contributes perhaps one-fourth to the entire gold

oduce of those colonies.
Upon reviewing the foregoing sketch of the world's supplies, requirements, and methods of obtaining gold, it appears that until 1848 no gold was obtained by free labour, that it was entirely the fruit of conquest and slavery, and that as the cost of obtaining it was little or nothing all mines worked previous to that period, with perhaps the single exception of those in Brazil, were exhausted before they were abandoned; that is to say, exhausted so far as forced labour and the development of mining methods and machinery at the

time enabled them to be exhausted.

With regard to the progress which has since been made in the lastnamed respects, it may be stated in this place that no essential improve ments were devised except when the use of mercury was re-discovered during the 16th century, and the hydraulic method was developed some 10 or 15 years ago. The use of powder for blasting, of steam for hoisting, pumping, and crushing, of improved drills, and other tools, have indeed effected great economy in the production of gold by free labour; but these inventions were comparatively useless so long as labour was forced, and except in one respect they did not essentially alter the conditions of production. This exception relates to the depth at which mines could be worked, and as gold quartz mines have generally proved to be richer near the surface even this advantage had its limits.

Having thus briefly traced the history and characteristics of gold mining, I purpose on a future occasion to show whence the commercial world must expect to obtain its future supplies of the precious metal, and from what countries it is futile to look for them.

Grosvenor Hotel, London, March 30. ALEX. DEL MAR, M.E.

SECONDARY ELEMENT V. SEX IN MINERAL VEINS.

SIR,—I am very pleased at seeing in the Mining Journal of Feb. 25 an article on "Sex in Mineral Veins." The subject is not by any means a new one, as it is an idea that has occupied my attention for the last 30 years, and I am fully satisfied, and have been for many years past, that we cannot apply the word sex to mineral veins, as on close inspection I have found that the north and south vein (and which Mr. J. Van Cleve Phillips, New York, would term a male, and non-productive) by a secondary influence has become the bearing or productive vein. the bearing or productive vein.

A short account of my investigations of mineral veins and what led to it may not be out of place. Standing on an old mine burrow and elevated on looking south-east and north-west I was somewhat surprised at beholding a number of mines in that direction, as our Cornish mines with but few exceptions are east and west, and the above was a few degrees south of east and north of west. Where I stood I could take in a distance of from four to five miles and the number of mines (about six), and on visiting the mines separately I found that each had been made productive on the east and west vein except the last. All the former veins had been made productive by the caunter running in the direction named above, and non-productive until forming a junction with the east and west vein, but the last to the south of east was in the direction of and with the Nine o'clock vein, and up to this point might be termed the male or non-bearing vein. But at this point it changed its character, and became the female or bearing vein in consequence of being disturbed by an elvan course as a secondary element, and was very productive for a short distance, and was called Wheal Chance in South Crenver, where thousands of pounds was recklessly wasted looking over a second Wheal Chance, but not finding a secondary element or elvan second Wheal Chance, but not finding a secondary element or elvan urse their money was spent in vain.

The next we shall hear of this caunter carrying its head, and pur

suing its course so to speak east and by south, will be in Polcrebo Mine to the east and south of South Crenver, now commenced to be worked by Mr. Battye, secretary, Great Winchester-street, London, which I have considered for years to be a valuable piece of ground, second to none. As I prefer giving a reason for the faith that is in me please permit me to do so in this instance, as it is of the utmost

importance.

This caunter or Nine o'clock vein after being traced a few miles through highly mineralised ground, with varied but beneficial results we now have in Polcrebo Mine, to the west and north it will intersect a north east and west vein, then three veins east and west parallel to each other, and underlying to form a junction in depth, and which is about the centre of the sett. It passes on, and in the south part of the sett it will again form a junction with three other east and west parallel lodes, about 30 ft. apart at surface, and coming together in depth. One of those (the south one) was made productive by a cross-course as a secondary element. When this vein was first discovered close to the cross-course and only 28 fms. from surface it was in September, 1872, worth more than 84l. per fathom. The best work made 7 cwts. 13 qrs. of tin to 20 cwts. of the vein (tin book now before me—amount, 2091. 10s. 6d.); yet this sett was con-demned by all the old-fashioned miners. It is quite time a new state of things should take place, so that we could with a greater amount of certainty find our mineral deposits. I have used every effort to form an Inductive Scientific Mineralogical Institution, visited London in 1879, was three times to Marlborough House to endeavour to see the Prince of Wales and Duke of Cornwall, being extensively in terested in mining property in the county, and, as I then stated, I now again affirm that the Prince of Wales's income may be increased by 50 per cent.; also all the mineral land proprietors in proportion.

It is only three years since I made the attempt to see and interest the Prince of Wales with my theory. However, I am not out of heart or discouraged, as I read that Mr. Samuel Morse, the inventor of the electric telegraph, presented himself at the White House Congress in America in 1837, where he was laughed at and jeered by those who should have assisted him, and who did assist him after wasting at years of presented and presented in the state of the state wasting six years of precious and valuable time. I suppose I must not hope to be more fortunate than was Mr. Morse with his valunot hope to be more fortunate than was Mr. Morse able invention.—Hayle, March 29.

TEMPERING STEEL.—At the French Academie des Sciences M. Dumas gave an account of a new process for tempering steel, invented by M. Clemenceau. M. Dumas introduced the communication by stating that recent experiments on the causes of the conversion of iron into steel have indicated the possibility of the impregnation of the carbon with iron vapour and the impregnation of the metallic mass with the vapour of carbon March 18 and 18 an mass with the vapour of carbon. M. Dumas considers that this inmass with the vapour of carbon. M. Dumas considers that terchange may explain the new properties acquired by the converted iron, which he attributes to the substance being thus rendered less porous and more homogeneous. M. Clemenceau's tempering process consists in taking a bar of steel, heating it to redness, enclosing it in a box which it exactly fills, and then submitting it to enormous hydraulic pressure. The steel is allowed to cool under these conditions. When withdraw it presents the property highly tempered and hydraulic pressure. The steel is allowed to cool under these condi-tions. When withdrawn it proves to be very highly tempered and suitable for making magnets, which have a remarkable degree of re-sistance. This steel is now being used in the manufacture of tele-phones, and it makes excellent and very fine tools. The compression an be regulated so as to give any required degree of temper to the

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REPORT FROM CORNWALL

March 30.—At present the tin market may be fairly said to have recovered its slight temporary local depression, with every prospect, though business has been somewhat dull, of a substantial improvement. We adhere in fact to our frequently expressed opinions that much better times are in store, and that at no distant date. We are seen in the midst of the chief quarterly grap of mine accounts and mach better times are in store, and that at no distant date. We are now in the midst of the chief quarterly crop of mine accounts, and it is very gratifying to find satisfactory features on nearly every hand. As we attach little or rather no importance to the casual falling off in Carn Brea and Tincroft the only untoward event of the series has been the stoppage of West Chiverton; and that we confess has by no means surprised us, for it is precisely what we predicted to some of the leading spirits in the resuscitation when we met them in Cornwall at the time. But there is a very great deal in other directions to set against this, and notably West Seton and Cook's Kitchen and West Kitty.

While dealing chiefly with the mining districts and prospects of Cornwall—as their importance demands—we have again and again availed ourselves of such opportunities as have offered to call attention to the enormous quantity of valuable mineral ground possessed

cornwall—as their importance demands—we have again and again availed ourselves of such opportunities as have offered to call attention to the enormous quantity of valuable mineral ground possessed by Devon—too long, save in one corner, almost wholly neglected. It has been very satisfactory to note of late the growing attention which has been paid to the district around Tavistock, which, by the correspondence columns of the Journal, appears to have had quite recently a very unusual number of outside visitors, all, moreover, gratified by what they saw and learnt. This is as it should be, The more any good mining district is visited and inspected personally by those who take an interest in mining the better it will be for legitimate enterprise. The Tavistock area has had many a prize in the past, and has a great many more in store—who can doubt it?—for the wise adventurer. But we would just point out that it is not only on the borders of the county that metallic minerals may be found in paying quantities. The whole of Dartmoor is mineralised, in some places highly so, and though of late years speculations have rarely answered expectation, no one who is aware of the fact that to the ancient tin streamers Dartmoor was far more productive than any part of Cornwall, can be unaware that the wealth of these early days is an evidence that much more remains behind. The day will come when Dartmoor will again rise into favour—at any rate in several localities—as a mining area, and the old times be, in part at least, reproduced. We have more faith—commercially—just now in Dartmore minerals than in Dartmoor peat, though the latter in its turn may yet have its day. The North Molton mineral field is another promising locality, which must sooner or later emerge from the cloud under which it has been far too long.

It is remarkable, on the other hand, to see how much is being

It is remarkable, on the other hand, to see how much is being done just now in Devon in the way of the development, artistic and utilitarian, of the clays which form so large a portion of the mineral wealth of that county, and how little inclination there is shown in ternwall to enter upon the same profitable path. Years ago the liev. C. M. B. Collins, of Trewardale, worked most zealously to promote the establishment of artistic potteries in Cornwall, but without effect, and now the county is being fairly left behind in the race altogether, even as regards the coarser and more practical wares. Around Newton and Torquay Devonshire is rapidly developing a characteristic art pottery of the highest merit; and exhibitions are being held at Newton far exceeding in importance anything that could have been thought possible—the second opening in a few days. Barnstaple, too, boasts an art pottery of its own of the highest class. And in the more commercial aspect of the industry we have just had the Japanese Ambassador in North Devon inspecting the light railway made for the purposes of the potteries at Peters Marland. At Chudleigh also, and at Lee Moor, near Flymouth, there are works for the manufacture of bricks, tiles, and sanitary ware on a large scale, and at present the development of the resources of the county of Devon It is remarkable, on the other hand, to see how much is being and the development of the resources of the county of Devon carried on with such exceptional vigour at such widely removed spots—seems little more than in its infancy. Yet Cornwall can lardly be persuaded to move, although the profitable character of similar operations there was thoroughly established many a year since. We are delighted at the progress made in Devon, but should be all the better pleased to see the sister county a full participant. We are a long way off yet from the end of our natural resources in We are a long way off yet from the end of our natural resources in

Strenuous efforts are being made to make the next public meeting of the Royal Cornwall Polytechnic Society worthy alike of the county and of the institution. It is intended, so far as possible, to prepare what may be called a material record of progress in the half century by the comparative exhibition of various mechanical appliances, old and new, and the lecture lisk will be unusually full and varied, and drawn up with the same object. We are happy to be able to announce that already several distinguished scientists have promised to attend and take part in the proceedings, which are likely by all accounts to be equally enjoyable and profitable. The report for the last year is, we understand, nearly ready for issue.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

March 30,—There was hardly any activity displayed at the usual cookly gathering of coal and ironmasters on Change in Birmingham weekiy gathering of coal and ironmasters on 'Change in Birmingham this afternoon. Buying was quiet, and few prices diplayed strength. The mills are getting slack of orders, and some of the chief works lave made arrangements for closing all the Easter week. Pigs were offered very much, but some descriptions were damaged by the appearance upon the market of some lots in second hands. Notwith-handing this, however, agents of hematite pigs would accept nothing less than 70s. Tredegar qualities were to be had at 72s, 6d, and larrow sorts at 70s. Some haves were prepared to have at 12s, 12s. presumes upon the standing this, however, agents or new less than 70s. Trelegar qualities were to be many large than 70s. Lout other bayers declined even to purchase at that figure.

Akters are of opinion that these second purchases will some be off the market. Finished iron was to be had easily when consumers were willing to distribute specifications; and for forward deliveries where maintained. Buyers stated that they would have been considerably to distribute specifications; and for forward deliveries where the behad it, and common hars were of the had at 71, 10s. Medium bars were to be had it, and common hars were (6.1 liss, per ton. There was a demand from the United States for sheets. These sheets are to be manipalted on this side and sent across in shapes suitable for being worked by him coal hods, palis, store shovels, and pall ears. This new here considerably. Enquiries are coming forward from the United States for sheets. Those sheets are to be manipalted on this side and sent across in shapes suitable for being worked by him coal hods, palis, store shovels, and pall ears. This new here considerably. Enquiries are coming forward for Durham coke, and enhanced prices are likely to be got for delivery and the strain of the same commodity. All the machinery seed to show the sent should be seen that the same of the same commodity. All the machinery seed to show the same shows who are making shingles and soing like out of the same commodity. All the machinery seed to show the same of the same commodity. All the machinery seed to show the same shows the same shows who are making shingles and soing like out of the same commodity. All the machinery seed to show the same shows who are making shingles and soing like out of the same commodity. All the machinery seed to show the same shows the same show the same shows the

The miners of the Netherton, Old Hill, Rowley, Blackheath, Holly Hall, and Brierley Hill districts, at Netherton, on Monday last, repudiated the new sliding scale, and condemned the action of those who had relinquished the Birmingham agreement, and signed the cale contrary to the wishes of 7000 men. A series of meetings with reference to the matter are to be held during the week.

The directors of the Hamstead Colliery Company (Limited) in their seventh annual report recommend the issue of 4750 preferred shares, equal to 95,000%, inclusive of the 400 fully paid-up shares, issued to Messrs, S. and J. Bailey. A remaining 250, representing 5000%, are left for future disposal in case of need. On those issued calls have been made to the amount of 7% per share.

SOUTH STAFFORDSHIRE MILL AND FORGE MANAGERS' ASSOCIATION—The annual meeting of members was held, on Saturday, at

Tiox -The annual meeting of members was held, on Saturday, at

the Saracen's Head Hotel, Dudley. Mr. Elward Harris presided, and there were present, amongst others, Messrs. Edwards, Rigby, Tibbs, Milward, Yeomans, W. Edwards, Hudson, V. Harris, Foley, Roden, Oakley, Hyde, Jordan, Talbot, Piper, Ashton, Williams, Lester, Griffiths, Haines, Oakton, and Wright.—The Secretary (Mr. Yeomans) read the report, which show ad that much useful work had been done during the year in the shape of discussions on original papers. Thirteen new members had joined during the year, making a total of seventy-three. The report was adopted. Mr. Richard a total of seventy-three. The report was adopted. Mr. Richard Edwards was unanimously elected President, and a hearty vote of thanks was passed to Mr. Joseph Morris, who retired. Mr. Moses Millard was elected vice-President, and Mr. A. Yeomans (Netherton) was re-elected honorary secretary, and Mr. Barnett treasurer. After a committee had been elected arrangements were made for the next annual excursion to London, for the overcess of visiting the electric annual excursion to London, for the purpose of visiting the electric exhibition. It was agreed that the Association should remain in Dudley for another year. After dinner the newly-elected President delivered his inaugural address. He looked back, he said, with pleasure to the work of the Association, and he looked forward with pleasure to a good state of trade. He counselled them to keep pace with chemical science and the electrical discoveries as the heat. sure to a good state of trade. He counselled them to keep pace with chemical science and the electrical discoveries as the best means of meeting competition. Political matter, too, in the shape of free trade should have attention, and railway companies' tariffs ought to be thoroughly discussed. After stating that there was plenty of work for iron, despite the great steel manufacture, the speaker urged the members to read papers, and expressed a hope that great good would result from the scientific lectures. great good would result from the scientific lectures.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN

March 30.—An important discovery is reported as having been made in the Cfyn Gweiriog lode of the Bryn Dyfi Mine, Cardiganshire. The ore is said to be ten inches solid at the top of the level, and thirteen at the bottom. In the mines of the North Cardiganshire Company strong ore is being worked at four different points, and large piles of ore have been accumulated outside of the mine. The feeling in mining yields in the country is that the recent nine. The feeling in mining circles in the county is that the recent proceedings in connection with the Cambrian Mines will prove a perious hindrance to the progress of legitimate mining for some time sections initiative to the progress of regitmate initing for some time to come. A question relative to the rightful owner of a Scotch peerage seems to hinge upon the question who is the true heir of the Alexander Fraser who successfully opened the Parys Mountain Mines about a century and a quarter ago. This Fraser was the eldest son and heir apparent of Lord Lovatt, but having through, it is said, inadvertently killed a man he fled from Scotland and worked in the mines of Cardiganships. From thouse he want to work at Llanger. mines of Cardiganshire. From thence he went to work at Llangynog, in the lead mines there, and at this village he married his wife.

Subsequently he removed to Anglesea, and opened the Parys Mines
While thus wandering unknown about Wales the peerage and property passed to a younger member of the family. Mr. John Fraser,
of Carrarvon, who certainly inherits the mining proclivities of his
famous ancestor, claims to be the heir to the estates and the title famous ancestor, claims to be the heir to the estates and the title tamous ancestor, claims to be the heir to the estates and the title. But just now another claimant comes upon the scene, in the person of a Mr. Fraser from Ireland. Probably, however, some statute or other of limitation will stop the way of both claimants.

The works in connection with the new waterworks in Wales for the supply of Liverpool are assuming great magnitude. At Llanwiddyn, where the great lake is to be formed, there are about 800 men employed. At Hirnant Penyhont and Llanwiddyn the route

men employed. At Hirnant, Penybont, and Llanrhaidt, on the route taken by the pipes that are to convey the water, there are some 500 more. At Llanwddn the excavation across the valley has reached to the more. At Llanwiddn the excavation across the valley has reached to the solid rock in places, and probably in two or three months the work of erecting the great stone dam will commence. This will take about 500,000 tons of stone, and to supply this an extensive quarry has been opened at a distance of about a mile from the works with which the quarry is connected, by a double line of railway now nearly completed. Tourists in Wales during the coming summer will do well to turn aside from the beaten paths at Bala or Llanfyllin, and see these great works as well as the wild mountain scenery with which they are invironed. The passing of the Llangynog Railway Bill is now considered safe, and the next thing will be to get the money to make the line. This is the rock on which some previous projects have foundered. Work is brisk among the slate quarries, but the wages are low, probably one-fourth lower than they were five years ago. foundered. Work is brisk among the slate quarries, but the wages are low, probably one-fourth lower than they were five years ago. The limestone quarries are well at work, and the brick and terracetta trades are fairly good. For home consumption the North Wales collieries have great difficulty in competing successfully with those of Staffordshire, whose representatives overrun the whole region. Boring machinery is being adopted in the Snailbeach Mine of Shropshire, and in this way will the expense of very deep workings be believed. be balanced.

TRADE OF THE TYNE AND WEAR.

TRADE OF THE TYNE AND WEAR.

March 29.—On the whole, the steam coal trade continues to improve. There has been a plentiful supply of tonnage, and large steam coal has been sent pretty freely to the Mediterranean, some of the Baltic, and other foreign ports. The price of this coal is very reasonable, und will certainly compete with any other coal in the markets of the world. The prospect for this important branch of the trade appears to be healthy. Very few new shafts have been sunk in the district of late years, but at present a new one has been commenced at the Dudley Colliery, belonging to the Cramlington Coal Company, and a shaft has also been commenced at the Seaton Burn Colliery; the latter is a well known steam coal colliery, situated six miles north from Newcastle. A large quantity of first-class steam coal has been shipped from these works for many years, and when this new shaft is completed the owners, Mr. John Bowes and partners, will be in a position to increase the daily output considerably. There is little change to notice in the state of the Durham coal and coke trades. Shipments of gas coal continue large, but they have

met Mr. Beaumont's proposals in a considerate manner, and a scheme is being matured by which the extensive mining undertakings in Northumberland and Durham, which have been conducted solely by Mr. Beaumont, will be transferred to a company. Mr. Beaumont will no doubt retain an interest in the mines, but he will retire from the active management of them. It is expected that the new order of things will come into operation about July I next. It is extremely pleasant to note that there is yet a prospect that the lead miners, who are bound to their dales by strong ties, will have preserved to them a means of living amongst their native hills.

The iron trade has been quiet during the past week, and merchants

have quoted rather lower prices, but makers have adhered to lat have quoted rather lower prices, but makers have adhered to lat rates. Shipments have not been quite so good, but this has been caused mainly by had weather. The makers attribute the down ward movement to the action of the "bears." The shipping requirements are likely to be very large; 4100 tons have been taken from Connall's stores in one week, an event never before paralleled in the history of the store. The report of the Teesside Iron and Engine Company just issued is not very favourable, but it gives much hope for the future. The manufactured iron trade has been steady, and prices on the whole have been uniformly maintained. There is no change of consequence in the quotations for raw or manufactured iron. Pig-iron is quoted at 43s.; No. 3 and finished iron ship-plates 71.5s. At Middlesborough on Tuesday the market was well attended, and a much better feeling was apparent, and the price of pig-iron 71. 5s. At Middlesborough on Tuesday the market was well attended, and a much better feeling was apparent, and the price of pig-iron was advanced slightly; many holders would not accept less than 43s. 3d. for No. 3 prompt delivery, and for forward delivery 43s. 6d. was asked. There is also strong activity in the steel trade, but the price of steel is only moderate. The engineers on these rivers continue, as a rule, to be well employed, and night work and overtime has been resorted to in many cases. The movement of the operatives for an advance of wages is likely to be generally successful, the masters have in many cases signified their intention of giving an advance of 7½ per cent., and there is little doubt that some of the first-class engineers will give an advance of 10 per cent. ers will give an advance of 10 per cent. class engine

TRADE IN SOUTH WALES.

March 30 .- The steam coal trade at the principal ports of South March 30.— The steam coal trace at the principal ports of south Wales is not so active as it has been, and the shipments have, consequently, fallen off, more especially at Carliff, where only 83,758 tons were sent away last week; Newport comes next, with 24,811 tons, and Swansen follows with 22,702 tons. The present position of the trade is not unhealthy, as orders are plentiful, and in a week or two the trade will again show good results. Of the increase in the output of coal over the entire county since 1879 this district, which includes the Monmonthshire and Somerset coal field, has made more than 20 per cent. The dispute at the Ocean Collieries, where the men have demanded a rise equal to 15 per cent., and have met with a distinct refusal, has led to the publication of a table showing the fluctuations in the price of coal at Cardiff, fo.b., from 1840 to 1881. fluctuations in the price of coal at Cardiff, f.o.b., from 1840 to 1881. It appears that coal reached its lowest point in 1868, when it was 8s. per ton, and its highest point in 1873, when it was 23s. per ton. It is now 9s. 3d. In 1873, when trade went up by leaps and bounds, coal rose at one time as high as 32s. per ton at Cardiff, and many manufactories were stopped in consequence. Although 9s. 3d. was the quoted price in 1881, the Ocean coal was quoted as high as 12s., the top price, and Nixon's Navigation commands an equal position in the market. The tin-plate trade is better than it has been, and prices are better. Coke-made plates are now 16s. 6d. at Liverpool, and charcoal made are from 21s. to 23s. per box. A meeting will probably be held to regulate the output, so as to keep the supply slightly in excess of the demand. The iron and steel trades are about as active as when last reported. The amount sent away from Cardiff last week was 3142 tons, Iron ore is coming in large quantities, 12,128 tons having been received during the week from Bilbao, whence freights are easier, and the price may be quoted at 16s. per whence freights are easier, and the price may be quoted at 16s. per ton. At Newport 22,518 tons of iron ore have been received, and a further decline in prices may be anticipated.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

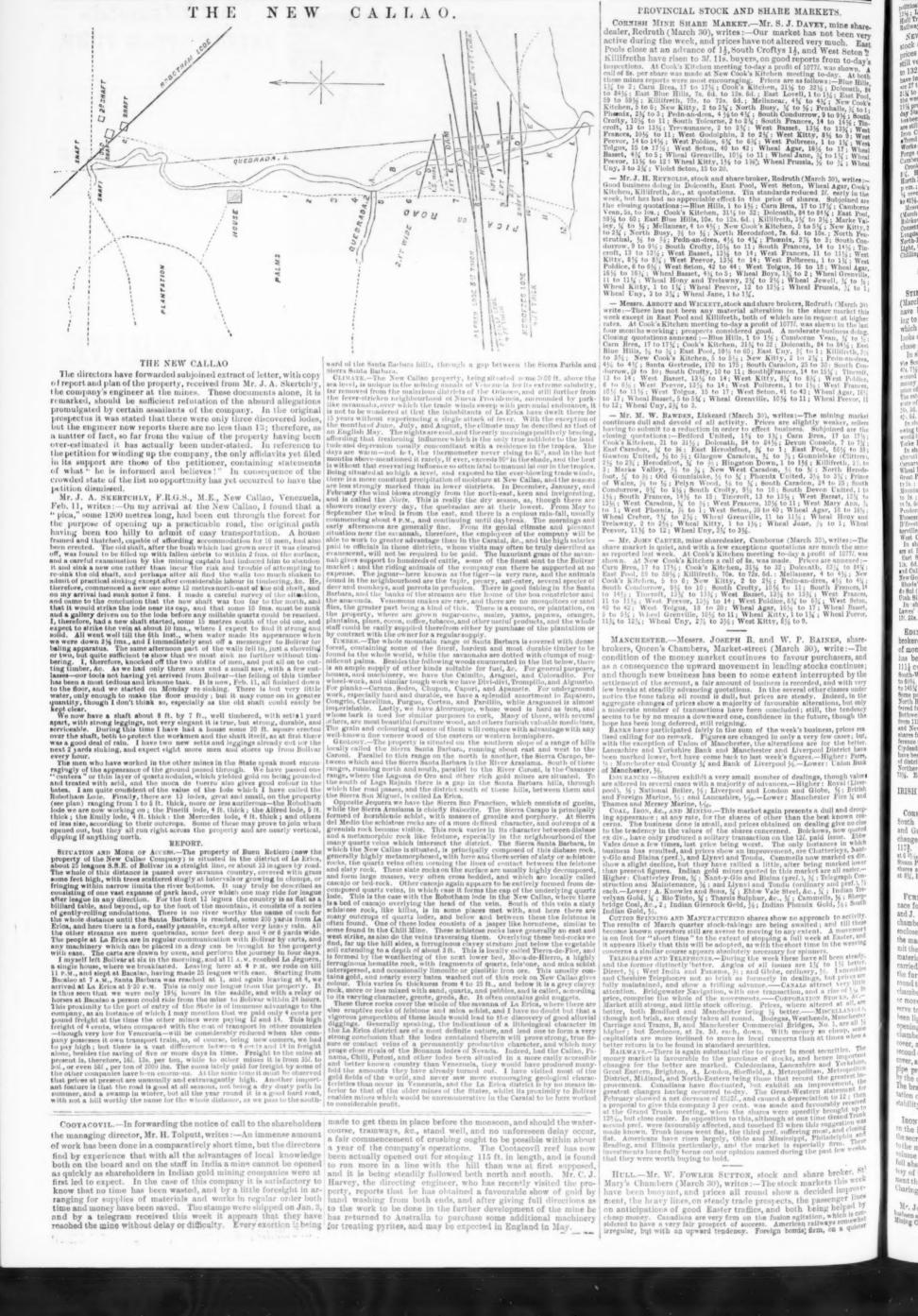
March 30.—The event of the week has been the determination of the Cammell's Company to purchase the Dronfield Steelworks, so well-known for the manufacture of rails. It appears that Messrs. Wilson and Cammell some time since took steps to remove their Dronfield works to Cumberland, so as to be near to the place where the pig iron was made, and also to a shipping port. This was considered a very serious matter for the village, seeing that the works find employment for a considerable number of men, caused a considerable number of houses and shops to be built, and a good deal of capital to be invested in various ways. Now, however, things will siderable number of houses and shops to be built, and a good deal of capital to be invested in various ways. Now, however, things will go on as usual, and as large a staff as usual will be employed, so that the shopkeepers and others are now exceedingly jubilant. In the iron trade there has been very little change, although the output is still in excess of the demand, consumers not purchasing with so much avidity as they have done. At the foundries a fair amount of business is being done in pipes and other castings, and there is also a steady output of manufactured iron. The coal trade is still quiet, so that at many of the collicries the men have been working only about four days a week. House coal, indeed, is in scarcely such good request as steam and other qualities. Prices are still what may request as steam and other qualities. Prices are still what may almost be termed unremunerative, for some qualities are selling from 5s. 9d. to 6s. per ton. The London market has kept up well for Derbyshire coal, although some qualities were delivered to the Metropolitan consumers as low as 19s. per ton. This will give some idea of the cost at the pits, when the cost of railway carriage, truck hire, terminals, putting into sacks, carting, and dealers' profits, which includes clerks, offices, advertising, &c. Steam coal has been going off somewhat freely for the time of year, but at the rates which prevailed during the winter months, there being a growing increase in the consumption by railway companies. Engine fuel has been in steady request for several of our manufacturing districts.

steady request for several of our manufacturing districts.

In Sheffield the iron trade is still somewhat unsettled, and prices have oscillated a good deal of late, and there has been nothing in the shape of speculation. Even hematites are not so firm as they have been, and in these there is now the most doing. The branches in which there is now the most doing are the rail-plates, shears, and armour material. Bessemer rail makers are doing well, but they find it difficult to compete with those in the North of England and South Wales where there is little or no railway carriages rate to pay.

CORNISH PUMPINE-ENGINES.—The number of pumping-engines reported for February is 15. They have consumed 1626 tons of coal, and lifted 121 million tons of water 10 fms. high. The average duty of the whole is, therefore, 50,100,000 lbs. lifted 1 ft. high by the consumption of 112 lbs. of coal. The following engines have averaged the average duty. exceeded the average duty :--

Dolcosth-35 in	S
Mellanear-76 in	5
Mellagear-Gandry's 30 in	5
West Basset-Thomas's 60 in.	5
West Tolgus - Richard's 70 in.	5
West Wheal Seton - Harvey's 85 in.	6
West Wheal Seton -Rule's 70 in.	6



PROVINCIAL STOCK AND SHARE MARKETS.

PROVINCIAL STOCK AND SHARE MARKETS.

CORMISH MINE SHARE MARKET.—Mr. S. J. DAVEY, mine share-dealer, Redruth (March 30), writes:—Our market has not been very active during the week, and prices have not altered very much. East Pools close at an advance of 1½, South Croftys 1½, and West Seton ½ Killifreths have risen to 31. 11s. buyers, on good reports from to-day's inspections. At Cook's Kitchen meeting to-day a profit of 1071, was shown. A call of 8s. per share was made at New Cook's Kitchen meeting to-day. At both these mines reports were most encouraging. Prices are as follows:—Blue Hills, 1½ to 2; Carn Brea, 17 to 17½; Cook's Kitchen, 31½ to 32½; Dolcoath, 84 to 84½; East Blue Hills, 7s. 6d. to 12s. 6d.; East Lovel), to 1½; East Pool, 59 to 59½; Killifireth, 70s. to 72s. 6d.; Mellanear, 4½ to 4½; New Cook's Kitchen, 5 to 5; New Kitty, 2 to 2½; North Busy, ½ to ½; Fenhalls, ½ to 1; Phemix, 2½ to 3; Pedn-an-drea, 4½ to 4½; South Condurrow, 9 to 9½; South Crofty, 10½ to 11; South Tolcarne, 2 to 2½; South Frances, 14 to 14½; Tincroft, 13 to 13½; Tevannance, 2 to 2½; West Basset, 13½ to 13½; West Frances, 10½ to 11; West Godolphin, 2 to 2½; West Kitty, 8½ to 9; West Person, 14 to 14½; West Police, 6¼ to 6¾; West Polbreen, 1 to 1¼; West Tolgus, 15 to 11½; West Seton, 40 to 42; Wheal Agar, 16½ to 11; Wheal Granville, 10½ to 11; Wheal Prussia, ½ to ½; Wheal Luy, 3 to 3½; Volet Stoon, 15 to 20.

Mr. J. H. Reynolds, stock and share broker, Redouth (Murch 30), writes:—

Basset, 9,2 to 5; Wheal Fernyllie, 10,2 to 11; Wheal Prussla, ½ to 1½; Wheal Prevor, 11½ to 12; Wheal Kitty, 1½ to 13½; Wheal Prussla, ½ to ½; Wheal Cluy, 3 to 3½; Violet Seton, 15 to 20.

— Mr. J. H. REYNOLDS, stock and share broker, Redruth (March 30), writes:—Good business doing in Dolcoath, East Pool, West Seton, Wheal Agar, Cook's Kitchen, Killifreth, &c., at quotations. Thi standards reduced 2t early in the week, but has had no appreciable effect in the price of shares. Bublioned are the closing quotations:—Blue Hills, 1 to 1½; Carn Bres, 17 to 17½; Camborne Vean, 5s. to 10s.; Cook's Kitchen, 31½ to 32; Dolcoath, 84 to 84½; East Pool, 59½ to 50; East Blue Hills, 10s. to 12s. 6d.; Killifreth, 3½ to 3½; Marke Valley, ½ to ½; Mellanear, 4 to 4½; New Cook's Kitchen, 5 to 5½; North Busy, 3½ to ½; North Herodsfoot, 7s. 6d. to 10s.; North Penstruthal, ½ to 3½; Pedn-an-drea, 14) to 14½; Phenix, 2½ to 3; South Condurrow, 9 to 3½; South Crofty, 10½ to 1; South Frances, 11 to 11½; West Froldice, 6 to 5½; West Peevor, 13½ to 14; West Polbreen, 1 to 1½; West Kitty, 8½ to 8½; West Peevor, 13½ to 14; West Polbreen, 1 to 1½; West Kitty, 8½ to 18½; Wheal Basset, 4½ to 5; Wheal Boys, 1½ to 2; Wheal Grenville, 11 to 11½; Wheal Hony and Trelawny, 2½ to 2½; Wheal Prussla, ½ to 1; Wheal Hony, 3 to 3½; Wheal Jene, 1 to 1½; Wheal Kitty, 1 to 1½; Wheal Peevor, 12 to 12½; Wheal Prussla, ½ to 1; Wheal Kitty, 1 to 1½; Wheal Peevor, 12 to 12½; Wheal Prussla, ½ to 1; Wheal Hony, 3 to 3½; Wheal Jane, 1 to 1½; Wheal Independent of the property of the

tical outlook. Local stocks steady and unchanged. Hull Banks, 12½ to ;; London and Yorkshire, 38s. &d.; Yorkshire Banks, 27; Hull Docks, 73; il Trams, 8½; Tutton Gas, 12½; Earle's Shipbuilding, 23; Hull and Barnsiey leavy 2 per cents, 18s.

Hall Trams, 9%; Tutton Gas, 12%; Earle's Shipbuilding, 23; Hull and Barnsley Rallway 2 per cent., 158.

EWCASTLE-ON-TYNE STOCK EXCHANGE.—Mr. FARADAY SPENCE, \$100\text{E}\$ and share broker, Grey-street (March 30), writes — Though prices generally are better than when I wrote last week, business is eill very limited. Barrow Hematite Steel ordinary shares are 130 to 132\text{j}, and preference 1 i 1-16. Bede Metal and Chemical shares have improved to 7\text{j}, 3\text{dis.} xd. Bolekow, Vaughan, and Co.'s 20l. paid shares have in 12\text{j}, xd.; 12l. paid, 3\text{j}, to 4 prem. xd.; and 5 per cent. preference, at 21\text{k}, 23\text{j}, consett from shares: A fair number have changed hands during 1\text{k} to 21\text{k}, 23\text{j}, prem., which is still bid, whilsts few shares are offered at 13\text{j}, prem., which is still bid, whilsts few shares are offered at 3\text{j}, but there have been nothing done in them during the week. John About and Co.'s shares have share have for the provided and still offered at 25 dis., whilst 27 dis. is best bid. Palmer's Shipbuilding and restill offered at 25 dis., whilst 27 dis. is best bid. Palmer's Shipbuilding and Iron Co.'s at shares are 27 to 27\text{k}, and B 5 to 5\text{k} dis. xd. Skerne Irons are sfered at 3\text{k}, 3\text{s}. 3\text{s}. 3\text{d}. 3\text{cach; no buyers at moment. Tees-Side Iron and Engine Works ordinary shares are at 1\text{k} to 1\text{j}, and preference, \text{j} dis. to par. Tyne Forse old shares are 8 to 6\text{j} prem., and new shares 4\text{j} to 5\text{j} prem. West Crook Burn Mine shares are 8\text{j} to 6\text{j} prem. West Crook Burn Mine shares are 8\text{j} to 5\text{j} dis. North Green Burth Mine (3s. 6d. paid) shares have changed hands during the week at 5s. 6d. prem., onthing doing in 1\text{l} paid shares. Patersyke Mine shares are offered at 5\text{j} to mm. whilst par is best bid. Tharis Sulphur and Cooper shares are 4\text{f} to 4\text{j} prem., whilst par is best bid. Tharis Sulphur and Cooper shares are 4\text{f} to 4\text

ho 41%. J. S. CHALLONER and Sons, stock and share brokers, Dean-stree (Yard) 30), write:—Barrow Steel, 130; ditto pref. 11; Bede Metal, ½ dis.; Balekow (201. paid), 27½ xd.; ditto (121. paid), 15½ xd.; ditto pref., 21½; Consett Frons, 18½ prem.; Darlington Irons, 3½; High Gosforth Parks, I prem.; Lugdales, 3½; Lawes, 3½; Newcastle Gas, 145; Newcastle Water, 146 xd.; North-Eastern Banks, 1½ dis.; Palmer, A, 29; ditto B, 19; Swan's Electric Light, ½ dis.; Teeside ordinary, 1½; ditto pref., par; West Cumberlands, 14½; Callington Irons, 2½.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, sharebroker and ironbroker (March 30), writes:—During the past week the tendency of prices have been favourable. For some time past people have been waiting to see the effect cheaper money would have on general business, which suffered somewhat during the late stringency, and as this looks encouraging confidence is steadily improving, especially as purbers can as a rule, be effected at moderate prices.

mich suffered somewhat during the late stringency, and as this looks encouraging confidence is steadily improving, especially as purchase can, as a rule, be effected at moderate prices. In shares of coal, iron, and steel companies prices are steady. In his seatch pig-iron market the price of warrants declined from 48s. 8/4d. to 41s. 7/4d., owing to the quiet state of trade, but a recovery to 48s. 9d. has since sized on the better reports from Middlesborough, and the easier state of the money market. The reports from Middlesborough, and the easier state of the money market. The reports from America are slightly better, as the rise in the gried of rallway securities is expected to favourably influence the iron trade. The release of continuation, owing to the heavy "hear" account and the easy state of the money market, have now become almost nominal. Alltanni are at 24. 3d.: Chatterly Iron, 6; Darlington Iron, 80s.; John Bagnall and Sons, B. 15. d. dis.; Llynvi and Tondu (pref.), 70s. to 80s.; and Plasquvein Fire-Clay, 5. In shares of foreign copper concerns, Tharais have declined from 41½ to 41, esting to the quiet state of the copper market, but purchases about present rates would likely pay well. Rio Tinto have advanced from 25. 6s. 3d. to 26c. 1s. 3d.; Forice Peninsula steady.

In shares of home mines there has been more business doing, but no great siteation has occurred in prices.. Bedford United are at 32s. 6d. to 37s. 6d.; Carnarvon Copper, 12s. 6d. to 15s.; Caron, 2s. 6d.; Drakewalls, 10s. to 15s.; East Chapter, 4d. 5s.; Herodstoot, 2s. 6d.; Caraking Queen, 2s. 6d. to 5s.; Killiffrieth, 60s. to 65; Lady Ashburton, 2s. 6d. to 7s. 6d.; Monts Bay, 2s. 6d. to 7s. 6d.; New Terras, 40s.; North D'Eresby, 2s. 6d. 17s. 6d.; Penhale and Barton, 1s.; Parka, 2s. 6d. to 7s. 6d.; Penhale and Barton, 1s.; Parka, 2s. 6d. to 5s.; Rosesmore, 5ts. to 65s.; South Devon United, 17s. 6d. to 12s. 6d.; South D'Eresby, 2s. 6d. 17s. 6d.; Penhale and Barton, 1s.; Peny-r-Orsedd, 10s. to 15s.; Panderson, 2s.; Gold and silver mines pr

EDINBURGH.—Messrs. THOMAS MILLER and SONS, stock and share brokers, Princes-street (March 30), write:—The increased abundance of money has had an important effect on the railway market, which has become very strong. Caledonian ordinary stock has risen from 111½ cum to 109½ ex div., North Britishfrom 93½ to 93½, Glasgow and 8oth-Western from 121 cum to 118 ex div., Great North of Scotland from 60½ to 50%. Highland remains at 106. Brighton Deferred has improved from 142½ to 145½, Great Eastern from 73 to 73½, and Great Western from 130½ to 103½. Some preference and guaranteed stocks have been dealt in at improved prices. North British No. 2 has risen from 100½ to 101½. Edinburgh and Glasgow Prefered from 109½ to 103½, to 133%. North British No. 2 has risen from 100½ to 101½. Edinburgh and Glasgow Prefered from 100 to 109½, the 1875 4½ per cent. Preference from 102½ to 104½. Bothwell Lien from 191½ to 193, North British at from 97% to 485%. Ontariothers from 20½ to 24%. North British and Mercantile Insurance shares have been very heavy; the announcement of the proposed reduction in the rate of distribution of profits has affected the price, which has fallen from 66 to 59. Northen Assurance have risen from 51 to 51%. Standard have receded from 74%. Edinburgh City Debt has fallen from 78 to 77.

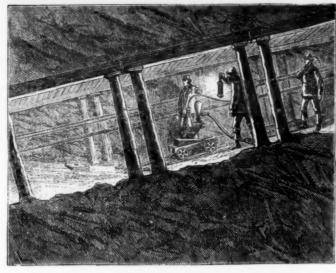
IRISH MINING AND MISCELLANEOUS COMPANIES SHARE MARKET.

-Messrs. J. H. CARROLL and Sons, stock and share brokers Conk.—Messrs, J. H. Carrolla and Sons, stock and share prokers-south Mall (March 29), write:—Markets were strong again to-day, and Great Southerns were done at 111½, and Midlands at 35. No change in Bandons; Limericks remain 32½ to 33, and Northerns at 117½. National Banks changed hands at 22 15-16, and Munsters at 515 is. Provincials were also done at 53. No change in Hibernian. Cork Steam Packets remain 10½ to 10½. Dublin Trams were done at 10½/4, and Lyons thare saked for at 4½. Dalys were also wanted at 2½, and Goulding's shares at 8½, Brewery shares were also asked for at 4½ to 5.

FURNACES FOR CEMENTATION PROCESSES .- An improved furnace for the cementation of iron has been invented by Messrs. F. and J. Pages, of Paris. It is characterised by the combination of a chamber of refractory material of parallelopipedon, or other form teclosed in masonry in such manner that there shall exist between the masonry and the chamber an interval or space sufficient to permit the introduction of fuel. There is a chamber made of refractory materials, put together in any convenient and suitable manner, and mit the introduction of fuel. There is a chamber made of refractory materials, put together in any convenient and suitable manner, and carried or supported by beams or supports built into the masonry of the furnace. This masonry is of such dimensions that it leaves round the chamber a vacancy capable of containing fuel. Under the chamber is arranged a grate for the firing, worked by means of two or more openings provided for that purpose, and openings which serve to admit the necessary air for combustion. The fire having been lighted it is kept up, and the combustion watched through the openings, which allow of one seeing into the space between the chamber and the walls of the furnace. The chamber is closed by a cover, and the outer walls of the furnace are also covered in by a second cover. The chimney pipe is placed in the centre of the second cover, and in order to allow the withdrawal of this cover the chimney pipe presents a union or movable sleeve, which can be easily raised pipe presents a union or movable sleeve, which can be easily raised by the cord carrying a counterweight, and passing over a pulley. The brackets or side supports are arranged on each side of the cementation chamber at those parts where they are most necessary for its shilling.

IRON TRADE REPORT.—The fifth annual report—that for 1881 In the iron and steel and allied trades, prepared by Mr. J. S. Jeans, he secretary of the British Iron Trade Association, for presentation of the members, is now issued in the form of a handsome little clause of over 100 pages. As we have already been enabled to give all abstacts of the several sections of the report through the coursy of the secretary in for sarding us advance proofs the announcement that the volume can now be obtained through Messrs, Spon, of laring Cross, will be all that is necessary. haring Cross, will be all that is necessary.

Mr. John H. Tilly, chartered a countant, of Queen Victoria-street, soen appointed liquidator, underthe supervision of the Court, of the Diamo ning Corporation of London and South Africa,



The above cut shows the Pulsometer engaged in emptying flooded galleries. There is no exhaust steam, and no fixing is required.

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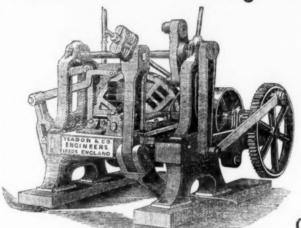
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TESTIMONIALS

Messrs. Yeadon and Co, Leds HARBONNAGE DE BERNISSART, PRES PERUWELZ (BELGIUM), JANUARY 4TH, 1878.

I continue to be perfectly satisfied with the work performed by the two patent Briquette Machines as well as with that of the Steam Engine, Mixer, &c., which you supplied a few months ago for the manufacture of compressed slack Briquettes, and that I can recommend them as being the best machines I know of, after having carefully studied all the Briquette Machines constructed at home and abroad.

G. FAGES, General Manager. structed at home and abroad. SOCIETE DES CHARBONNAGES REUNIS DU RIEU DU CŒUR ET DE LA BOULE. QUAREGNON (BELGIUM), SEPEEMBER 13TH, 1879.

Messrs. Yeadon and Co., Leeds.

We are entirely satisfied with the erection and working of the two Briquette Machines, as well as the Steam Engine and Mixing

A. FRANEAU, Managing Director.

A. FEANEAU, Managing Director.

A. FEANEAU, Managing Director.

I continue to be highly satisfied with the Briquette Machines which you supplied in 1877. They do their work very well, and produce the Briquettes very regularly, and of a good quality.

Messrs. Yeadon and Co.

Societe Houldere de Vendin-Lex-Bethune, Pas-de-Calais, December 2nd, 1880.

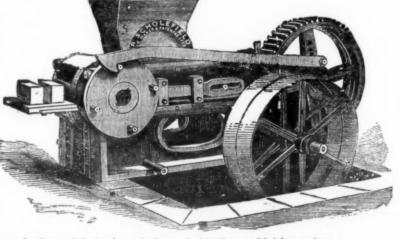
I have the honour to inform you that the Briquette Machines work very well. The Briquettes are very well made. I am highly satisfied with your workmen, who have done their work very well.

The undersigned, Civil Engineer of Mines. Charalies of the Vendin of Harder Countilies. Engineer for the Vendin of the Countilies.

The undersigned, Civil Engineer of Mines, Chevalier of the Legion of Honor, Consulting Engineer fo the Mines de Vendin-lexto, Bethune, Pas-de-Calais, certifies that the Briquette Machinery for making Briquettes of Coal, supplied by Messrs. Yeadon and Co. to the above Company is working to their entire satisfaction.

Lille, December 28, 1880.

R. SCHOLEFIELD'S BRICK-MAKING PATENT MACHINE.



R. S. begs to call the attention of all Colliery Owners in particular to bis PATENT SEMI-DRY BRICK MACHINE, and the economical method of making bricks by his patent machinery from the refuse that is taken from the pits during the process of coal-getting, which instead of storing at the pit's mouth (and making acres of valuable land useless) is at once made into bricks at a very small cost, by R. S.'s Pateut Brick-making Machinery. If the material is got from the pit hill, the following is about the cost of

production, and the hands required to make 10,000 pressed bricks per day: -

schine, and placing them in barrow ready for the kiln, 2a. per day

THE MACHINES CAN BE SEEN IN OPERATION AT THE WORKS OF THE SOLE MAKER AND PATENTEE DAILY.

SCHOLEFIELD'S ENGINEERING & PATENT BRICK MACHINE WORKS KIRKSTAL ROAD, LEEDS.

FOREIGN MINING AND METALLURGY.

There is little news to communicate with respect to the Belgian coal trade. The general tone of the markets is good—better even than might have been anticipated. While metallurgical industry appears to be in rather a weak condition, the coal trade is defending itself vigorously, and appears to be even acquiring additional strength. It has been found necessary to suspend working operations on Monday at some of the collieries in the Liége district, where

itself vigorously, and appears to be even acquiring additional strength. It has been found necessary to suspend working operations on Monday at some of the collieries in the Liége district, where stocks begin to accumulate a little; nevertheless, business has still been carried through upon tolerably favourable terms, some descriptions even exhibiting an advance upon the quotations current in the corresponding period of last year. This is said to be the case in the Mons Basin, where contracts have been renewed at an advance of 5d. to 7½d. per ton, as compared with March, 1881. In some cases the proprietors of French sugar works have conceded an advance of 5d. per ton upon the rates current a year since, but in other districts business has only been done upon the old terms. Coke has been generally firm. The general tone of the German coal trade has not experienced much change. Coke has continued in good demand. It has, indeed, been difficult to procure coke in consequence of the considerable inquiry prevailing for it on the part of proprietors of blast furnaces, and some producers have advanced their rates 5d. per ton. With this exception there is scarcely any news to communicate with respect to the German coal trade.

The French Government has just deposited in the Chamber of Deputies two important Bills, one relating to a proposed great canal from the North of France to Paris, and the other to the construction of a junction between the Escant and the Meuse. The second of these canals will serve principally to unite the blast-furnaces and mineral bearings of the East of France with the collieries and forges of the Nord, as well as with the port of Dunkerque, by means of the Sensée Canal, and the canal of the Nord, extending as far as the sea. Dunkerque will by this means be enabled to compete with Antwerp. At present it is necessary to have recourse to railway communication from Valenciennes to Aulnoyre and Mézières, or from Cambrai to Rheims, with supplementary communication the collieries of the Nord cannot c

traffic passing through it at 766,000 tons. It is calculated that if the canal is constructed it will secure a saving to the collieries interested of about 168,000l. per annum.

The present condition of the Belgian iron trade is not very brilliant. The current of business has not increased, and this has rather weakened the strength of producers on the one hand, while on the other hand it has encouraged intending buyers to abstain from concluding purchases. Several great establishments have still work assured to them for some time to come, especially construction workshops; but the forges and rolling mills, as well as the blast furnaces, are not by any means overdone with orders, and concessions, as regards prices, are accordingly becoming general. Even some good establishments, which have still a certain amount of work on hand have not their production completely engaged, and they find it necessary accordingly to take orders at lower prices in order to keep their staff and appliances going. They are taking as little work as possible at a reduction, but the fact that they are accepting a reduction at all may be regarded as a proof that the general situation lacks solidity. Former prices are still officially maintained, but this is all that can be said respecting them; in reality business is done very generally upon slightly lower terms than those current a month since. For example, the official quotation for iron is 5l. 16s. per ton; but business is done at 5l. 12s, per ton, and even at 5l. 8s, per ton. The quotations current for pig are declining, as far as the price of coke permits them to do so. As regards plates, a quotation of 8l. per ton appears to be now abandoned in Belgium, orders being freely accepted at 7l. 12s. per ton.

The French from markets still exhibit a favourable tone upon the whole. At Paris, however, there has been some little weakness. The aspect of the German iron trade is not unfavourable.

The French iron markets still exhibit a favourable tone upon the whole. At Paris, however, there has been some little weakness. The aspect of the German iron trade is not unfavourable. The demand for pig is increasing, while it is only offered sparingly. An announcement that some new blast furnaces have been lighted calmed, however, the ardour of the demand, and comparatively few transactions of importance have been concluded. Iron has been, perhaps, a little less firm in Germany. Some qualities have entirely been neglected, although, at the same time, it cannot be said that quotations have shown weakness. The Koesch Steel Works has secured a large order for fish-plates, at 7l. 12s. 6d. per ton. Several lots of plates for shipbuilding have been tendered for at Kiel at 12l. 9s. per ton for charcoal-made plates, and 11l. 14s. per ton for coke-made.

Underground Rope Pump.—An improved pump, specially designed for mining purposes—such as pumping water out of underground works, dipheads, and so on—is now being made by Mr. J. P. Harper, M.E., of All Saints, Derby, and is considered by those competent to judge to be well suited for the purpose. He states that the pump has been designed with a view of meeting the increasing demand for a simple, cheap, and handy form of pump. Where the underground workings are situated at a distance from the shafts the fixing of a steam pump necessitates pipes being carried a long way into the workings at great cost, the escape and exhaust steam doing great in jury to the workings, whilst compressed air is too costly in most instances to allow of its being applied. This pump can be fixed anywhere, a height of 3 ft. or less being sufficient, and where any system of endless rope or chain haulage is in operation, or means exist for driving an endless rope, may be most advantageously used, either by working the pump by a connecting rod direct from the terminal pulley of any of the roads, or by taking a short branch rope from the main haulage rope or any terminal pulley. The pump is double-acting, worked direct from the driving pulley by a connecting rod, having a variable stroke to suit the quantity of water to be pumped and the speed of rope, and can be immediately disconnected from the driving pulley when not required to be used. A 2-inch pump, with 3 ft, stroke and a speed of rope of 2½ miles per hour, will pump 2000 gallons per hour. The working parts are easy of access, and the pump will, it is considered, be found efficient, durable, and economical for pumping water in underground works.

Aspestos Packing.—With a view to provide an asbestos woven coated packing suitable for steam glands and heated joints generally, superior to the packings heretofore in use, in respect, amongst other advantages, of combined elasticity and firmness, fine bearing surface and reduced friction on the rod or article to be packed, and ease of and economy in manufacture, Messrs. Allport and Hollings, of Manchester, propose to form a core of any desired number and size of strands to make up a packing of the required dimensions. Around the said core, the strands of which are parallel or only slightly twisted, they weave a covering consisting of comparatively large diameter warp and fine woof or weft. During weaving the weft is drawn tight. In that way the core is made sufficiently compact, and the surface of the finished article is left with round projections of warp only for bearing on the rod when the packing is in position, say, in a gland. The fine weft being at the bottom of the depressions between the projections does not come into contact with the article packed until after excessive wear has taken place. Although they have spoken of their packing as asbestos packing, it will be evident that other fibres may be used in some parts, such as silk for the fine weft.

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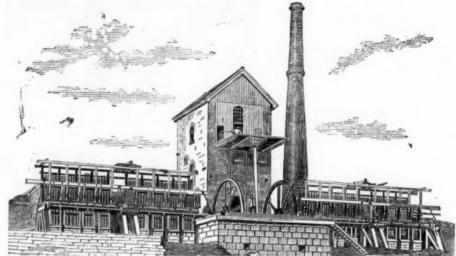
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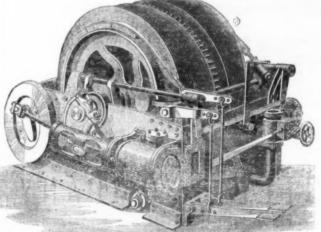
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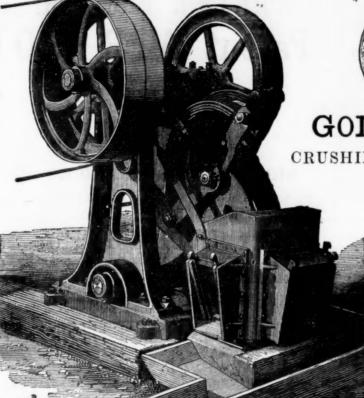
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The Machine can be seen at work daily at the Brickworks of the Patentees, JOSEPH PIRTH AND SONS, WEBSTER HILL, DEWSBURY, and CROWBURY BRICK WORKS, SUSSEX; as also their Patent Gas Klin for Burning Bricks, which possesses the following amongst other advantages, viz.:—Economy in Fuel, Rapidity and Quality of Work, even Distribution of Heat, and Total Consumption of Smoke.

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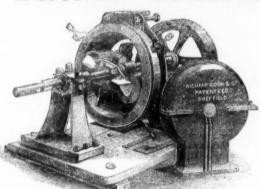
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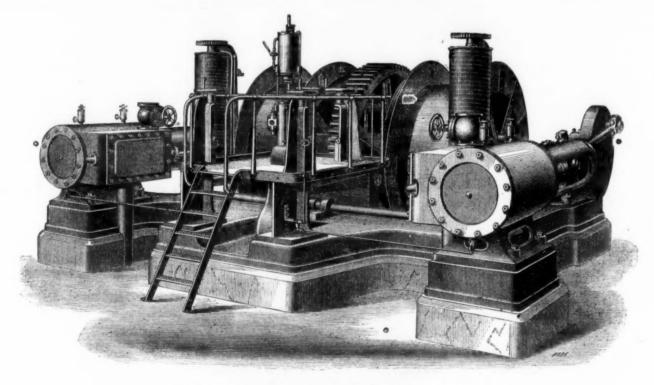
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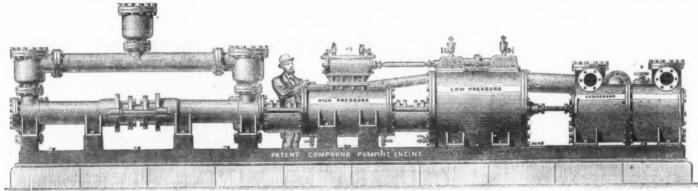


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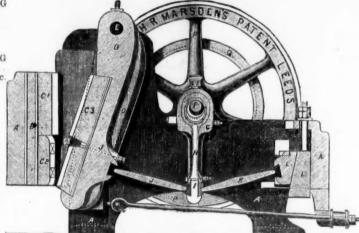
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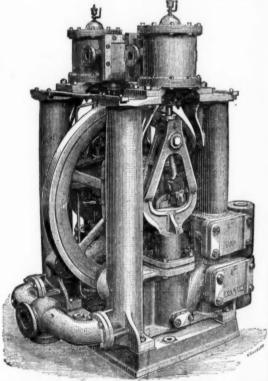
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